

24

# American Vegetable Grower

APRIL • 1957



The Black 'Wonder' Mulch

Potato Planting Pointers

How the Williams Grow  
1000 Acres of Asparagus

Vegetable Areas of America—  
South Carolina

**Don't Gamble with FROSTS!**

England

er yields per acre

edling vigor.

MEMPHIS 1

VINELAND, N.J.

**"We've always had good success with**

# **FIRESTONE FARM TIRES"**

*says Henry Kunkler, Rte. 1, St. Henry, Ohio*

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An ordinary yardstick can help tell you why Firestone Tires last longer. Lay the rule across the Champion Ground Grip's tough tread. You'll notice its extra width and flatter contour. It's made to grab and hold the extra

ground needed for greater traction. The wide flat tread gives longer life and lower costs per year of use.

Extra traction is just one of many Firestone Tractor Tire advantages. See your Firestone Store or Dealer about all your farm tire needs. You'll find that you'll get more for your money with Firestone tires.

Henry Kunkler, Sr., left, shown here with Charlie Schrage of the Wolff Tire Service, Celina, Ohio, Firestone Dealer.



Henry Kunkler, Jr., (right) learns how Firestone's new air measure gauge indicates correct tire inflation regardless of load. The Kunklers' farm tire needs are serviced by Wolff Tire Service.

Enjoy the Voice of Firestone on radio or television every Monday evening over ABC.

**Firestone**  
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RES"

Ohio

wide flat tread  
of use.

estone Tractor  
ore or Dealer  
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# Kill soil pests with **aldrin**

**C**ONTROL HARMFUL soil pests and you take a major step towards bigger and better yields. These destructive insects ruin millions of dollars' worth of vegetables and small fruits each season. That's why more and more growers are knocking out soil pests with powerful aldrin.

Aldrin kills wireworms, rootworms, white grubs, and many

other harmful, root-destroying soil insects. In fact, if they touch, taste or breathe it, the kill is made. Root systems, free of soil pest damage, deliver all the nourishment necessary for bigger, better vegetable and small fruit crops.

Aldrin is economical and easy to use. You can do the job effectively with just a few ounces of actual aldrin per acre. Use it as a spray,

granules, or a dust . . . or include it in a fertilizer mix. Whichever way you choose, you get dependable control.

This season, give your crops a good healthy start towards a profitable harvest. Knock out soil pests with powerful aldrin. It is available under well-known brand names from your insecticide dealer. See him today.

**SHELL CHEMICAL CORPORATION**

AGRICULTURAL CHEMICAL SALES DIVISION

460 PARK AVENUE, NEW YORK 22, NEW YORK



Entered as second class matter at Post Office at Willoughby, Ohio, under the Act of March 3, 1879. Additional entry at Mount Morris, Illinois.

APRIL, 1957

3



## Farming steps years ahead



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★ *New Power Director* gives you 8 speeds ahead—from 1½ to 12½ miles per hour. Quick-shift to high or low range *on the go*. You've never experienced anything like it!

★ *New Roll-Shift* front axle spaces front wheels without blocks or jacks. And

naturally, *the original Power-Shift* rear wheels, too! Power Steering if you want it.

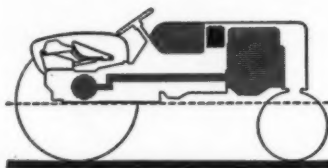
★ *New Enclosed Hydraulic System*... new Range Selector for **TRACTION BOOSTER** system controls traction weight on rear wheels, *automatically*.

★ *New Easy-Ride* seat brings an entirely new feeling of comfort and security. Roomy platform lets you step up easily and stand safely.

★ *New D-14* row-crop cultivator is easily mounted. Gangs roll in like a rubber-tired wheelbarrow. Rear-mounted implements interchange with WD and WD-45 Tractors. **SNAP-COUPLER** hitch—of course!

Try the power of the Dynamic D-14's new **POWER-CRATER** engine. Here is 3-plow farming with a brand new get-ahead feel. Step aboard—at your Allis-Chalmers dealer.

ALLIS-CHALMERS, FARM EQUIPMENT DIVISION, MILWAUKEE 1, WISCONSIN



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**High-Crop** Design

*Stops the eye! New ease in farming!*



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and **POWER-CRATER**  
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## AMERICAN VEGETABLE GROWER

REG. U. S. PAT. OFF.  
(Commercial Vegetable Grower)

Vol. 5 April, 1957 No. 4

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AMERICAN VEGETABLE GROWER



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## THE TEMPORARY SOIL STERILANT

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This all-inclusive action is accomplished because Stauffer-VAPAM releases a gas beneath the soil surface, effectively fumigating the soil to render it temporarily sterile, thus acting to destroy weeds, soil fungi and nematodes. This gas then escapes, leaving the soil in better condition for optimum plant growth.

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## LETTERS TO THE EDITOR

### Method for Early Germination

Dear Editor:

With spring just around the corner, I would like to tell you about our method for encouraging early germination of seeds in the field.

As soon as it is warm enough for seeds to germinate, we disk and harrow our fall-plowed garden and finally float a sufficient number of times so that our ground is as level as possible. This assures a good seed bed and easier irrigation.

Then we take our Cub tractor and by placing two shovels 36 inches apart we are able to make two rows at once. By this method we can use the same tractor and cultivate with differently placed shovels. After our rows are made (2 to 3 inches deep for most seeds), we water them lightly by running water from our well down each row. We then drop our seed, put covering shovels on the tractor, and cover.

This method starts our seed quickly. But we have found that small seeds that are hard to start, such as carrots and beets, do best if covered lightly with a fine mulch. This helps to insure their breaking through the ground.

We use this same method to put in our early, small acreage of corn. By the time large amounts of corn need to be planted, we generally have had rains and this seed is planted with the corn planter.

Loveland, Colo. Mr. & Mrs. Ralph Graybill

### Pat on the Back

Dear Editor:

I was interested to see in your State News column an item on zinc deficiency in California. As a truck farmer, I've found it profitable to keep in touch with the work being done at the experiment station. I was able to correct zinc deficiency without any loss in production by using foliar sprays early enough to do the most good.

I'd like to take this opportunity to give a pat on the back to the research workers whose efforts have helped growers such as myself to prosper.

El Centro, Calif.

William Akarian

### Rebuilds Plastic Greenhouses

Dear Editor:

In your Coming Next Month for the February issue you list "Build a Plastic Greenhouse." I am starting to rebuild three plastic houses, storm-ruined last fall. Is it possible to receive a copy of the magazine or at least this particular article within the coming week? It would be most helpful.

Long Branch, N.J.

Bruce L. Birnie

We rushed our reader air mail a proof of the article so it would arrive in time before construction started. The article is by Raymond Sheldrake, Jr., of Cornell, telling about the plastic panel method of construction.—Ed.

### Jack and the Beanstalk

Dear Editor:

Your gibberellic acid story in February sounds like a fairy tale or Jack and the beanstalk brought to life.

Waltham, Mass.

Tom Mooney

It will be several years before we know exactly how this new growth promoting substance can help vegetable growers. But we do know now that this is the most

important growth regulating compound yet discovered and it will have far-reaching effects.

Several companies are supplying gibberellic acid for use in testing and in necessary research and development. (See the E. I. Lilly advertisement on page 32.)

As reported in February's AMERICAN VEGETABLE GROWER, gibberellic acid stimulates crops to grow much faster and to break dormancy, form flowers, set fruit, and produce seed weeks and months ahead of nature's schedule.—Ed.

### Wants Tomato Stake Setter

Dear Editor:

I am a tomato specialist and plant nothing else for sale. Last summer I sold \$1100 worth of fancy Big Boy tomatoes, wholesale, from a plot 75 x 100 feet. Irrigation was by the 1/2 hp jet pump which also supplied water for our home and 1000 hens. This year I'm expanding to 1 1/2 acres and have invested \$1200 in an extra well.

I would like to know as soon as possible how successful growers set the thousands of stakes required for even one acre. With an ax, driving them for even one-sixth of an acre was a man-size job!

Hopkins, S. C.

W. Kern Powell

Reader Powell has seen by now page 28 of our March issue which tells how a Rear stake press and two men can set 5 to 10 stakes a minute.—Ed.

### Certified La Soda Potato Seed

Dear Editor:

I have had inquiries from southern growers as to where they may obtain La Soda potato seed. If anyone else writes in to you asking where the La Soda potato seed, certified, may be obtained, have them write to Charles Blackman, R.F.D., Clark, S. Dak. He's our leading certified potato seed grower and has been in this business about 35 to 40 years.

When I wrote to you before (Letters to Editor, December, 1956) I said that the La Soda was a white potato. This was a mistake as the La Soda is red. The Rushmore is a white potato and is also available from Charles Blackman. Both varieties sell for \$3 per 100 pounds, shipping charges extra.

Dr. Julian C. Miller, of Louisiana State University, works with Mr. Blackman here in the summer propagating new potato varieties. Dr. Miller originated the La Soda a few years ago. He named it La Soda after both states of Louisiana and South Dakota.

Clark, S. Dak.

Herbert F. Thom

### Teaching Aid

Dear Editor:

As a teacher of horticulture and a vegetable specialist at the University of Rhode Island, I have followed the "Know Your Vegetable Seeds" item by Victor Boswell from month to month.

If available, I would like a full set of these for mounting and use in teaching classes in horticulture and vegetable crops.

Kingston, R. I. Albert E. Griffiths

We have sent our readers tear sheets of the series. Due to the many requests our supply is now depleted.—Ed.

AMERICAN VEGETABLE GROWER

APRIL

EDITOR

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GETABLE GROWER

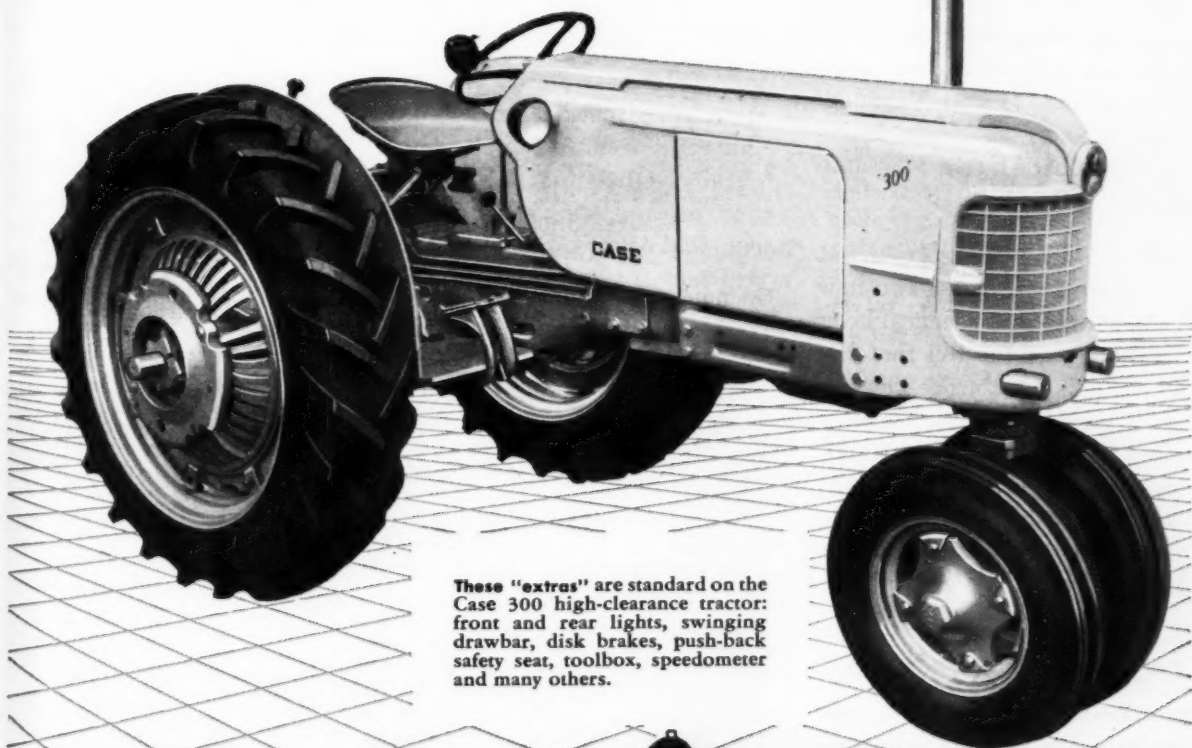
## New High-Clearance Tractor

# Takes Tall Truck Crops in Stride

**CASE®**  
3-Plow, 12-Speed **300**

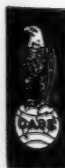
You sit comfortably "in the saddle" in this new Case 300 high-clearance tractor. There's 25 inches of under-clearance for tall, bushy or bedded crops. Everything is handy for cultivating or any field job. Snap-lock Eagle-Hitch makes implement hitching or switching easy. Safety-lock hydraulics have separate controls for front and rear sections, or for trailed implements. Turning radius is 7 feet, 9 inches with single or dual front wheels. Left-hand throttle—or special foot feed—leaves your right hand free for the hydraulic levers. Tripl-Range transmission gives you both hand and foot clutches . . . 12 forward speeds, including 3 creepers . . . 3 reverse gears . . . plus constant-running PTO for easier spraying, dusting or harvesting. Rear wheel tread adjusts easily from 48 to 88 inches. A full line of mounted or trailing implements is available.

. . . with  
Snap-lock  
Eagle-Hitch



These "extras" are standard on the Case 300 high-clearance tractor: front and rear lights, swinging drawbar, disk brakes, push-back safety seat, toolbox, speedometer and many others.

Case Crop-Way Purchase Plan enables you to get crop-saving, money-saving tractors and implements when you need them, make later payments at times when you have money coming in. Get details from your Case dealer.



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You make farming a more profitable business when you choose and use full-line Case tractors, balers, combines, and other machines.



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- |   |                                      |
|---|--------------------------------------|
| <input type="checkbox"/> 300 high-clearance tractor | <input type="checkbox"/> Cultivators |
| <input type="checkbox"/> 400 high-clearance tractor | <input type="checkbox"/> Planters    |

Name \_\_\_\_\_

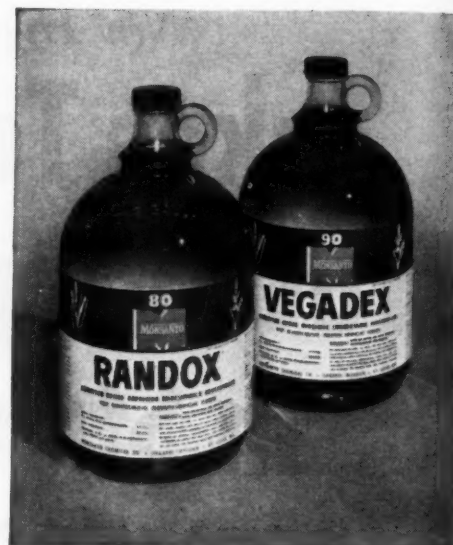
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**NEW WEED KILLERS FOR FOXTAIL, CRAB GRASS,  
BARNYARD GRASS, IN CORN, SOYBEANS,  
ONIONS, OTHER VEGETABLES**

## **Spray as you plant... Save at least one cultivation**

*Monsanto has just released two new field-tested weed killers: **Randox**—kills a wide range of grassy weeds that infest corn, soybeans, and many other crops; **Vegadex**—a weed killer that practically eliminates hand weeding in most vegetable crops.*



This season you can control these hard-to-kill grasses and certain broadleaf weeds with two totally new and highly effective weed killers: **Randox** and **Vegadex**. Both are pre-emergence herbicides developed by the Monsanto Chemical Company.

When sprayed on the ground at planting time, these two new herbicides form a chemical layer on the top of the soil that lets crop seedlings through—but kills off a variety of tough grassy weeds before they sprout. Although there are some similarities between these two weed killers, there are some important differences you should know about.

### **CROPS RANDOX PROTECTS**

**Randox** is recommended for use on hybrid seed corn, field corn, sweet corn, popcorn, soybeans, lima beans, snap beans, onions, canning peas.

### **WEEDS RANDOX CONTROLS**

The following weeds are highly susceptible to **Randox**, and a single spray treatment of the ground

at planting time is normally all that is required to keep them out of your crops:

Annual bluegrass, barnyard grass (water grass), cheat, carpetweed, crab grass, giant foxtail, green foxtail, yellow foxtail, goose grass, pigweed, stink grass, sandspur, wild oats.

On muck soils, ragweed, smartweed, chickweed, purslane and

lamb's-quarters can be controlled by applying **Randox** at slightly increased rates.

### **ABOUT RAIN AND SOIL**

One of the outstanding characteristics of this totally new weed killer is its high effectiveness under either heavy or limited rainfall conditions and on heavy soils such as clay loams, silt loams, and mucks.



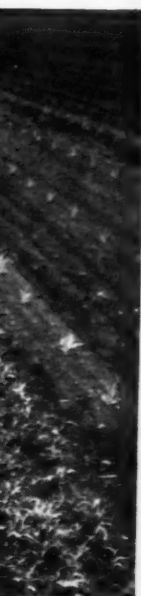
Photo of test field shows how a band application of **Randox** effectively controls grassy weeds in the rows, without harming seedlings.



can be controlled  
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#### SOIL

standing charac-  
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effectively controls

TABLE GROWER



This crop will need practically no hand weeding. It was treated with a band application of Vegadex.

#### HOW RANDOX SAVES MONEY

Randex treatment can mean substantial savings. For example, using Randex in band treatment at the rate of  $1\frac{1}{2}$  quarts per acre (cost: about \$3.95 per acre) eliminates the need for rotary hoeing (saving 75¢) and cuts out at least one cultivation (\$1.25). This is a total saving of \$2.00 per acre—or \$3.25 if two cultivations are eliminated.

Now add the losses incurred from in-row weed infestation: A moderately light infestation of green foxtail (left after normal cultivation) cuts corn yields an average of 6 to 8 bushels per acre. However, if Randex is used, every dollar spent may return \$2.50 (in higher yield). Your Monsanto Farm Chemicals Dealer will be happy to give you more information about Randex. Or write the Monsanto Chemical Company, Organic Chemicals Division, Dept. 3-MH, St. Louis 1, Mo.

#### CROPS VEGADEX PROTECTS

Vegadex is the newest of Mon-

santo's pre-emergence herbicides. It has been approved for use on collards, kale, mustard greens, spinach, turnip greens, Hanover salad, broccoli, Brussels sprouts, cabbage, cauliflower, snap beans, lima beans, soybeans, garden beets, celery, lettuce, sweet corn, and field corn. It can also be safely used on certain nursery crops such as hydrangea, euonymus, Potentilla, spiraea, and azalea.

*Vegadex does not build up in the soil.* Although one application can control weeds all season if soil is not cultivated, you can use Vegadex 2 or 3 times a year without harmful effects to your crop.

#### WEEDS VEGADEX CONTROLS

Vegadex controls annual bluegrass, bull grass (goose grass), purslane, foxtails, barnyard grass, chickweed, pigweed, crab grass, henbit (blueweed) and lamb's-quarters.

#### WHAT ABOUT SOIL TYPES?

Vegadex works best on light, sandy soils that are low in organic

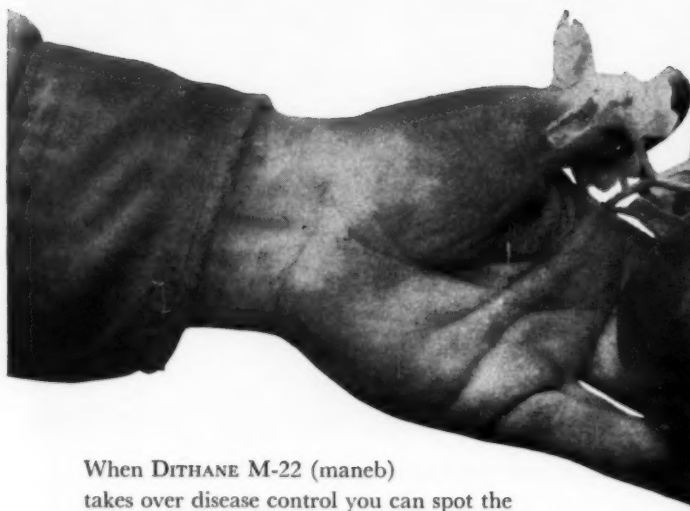
matter or clay. Vegadex works effectively on heavy or muck soils, but application must be followed with a good wetting down by overhead irrigation.

#### HOW VEGADEX SAVES MONEY

When used on leaf crops, Vegadex can eliminate practically all hand weeding and yet give you cleaner crops. Comparative studies conducted over a two-year period showed savings of approximately \$18.00 per acre where Vegadex was used in place of hand cultivation in spinach fields. When used on widely spaced row crops such as sweet corn and beans, Vegadex often eliminates rotary hoeing and at least one cultivation.

Both Randex and Vegadex are available at your Monsanto Farm Chemicals Dealer. For more information about Randex and Vegadex, see your dealer today or write Monsanto. The address is: Monsanto Chemical Company, Organic Chemicals Division, Dept. 3-MH, St. Louis 1, Mo. RANDOX and VEGADEX: Reg. U. S. Pat. Off.

You can see more tomatoes with  
**DITHANE M-22**



When DITHANE M-22 (maneb) takes over disease control you can spot the field "a mile-away". The rows look lush and greener, the tomatoes free from disease blemishes, the vines loaded with more and bigger fruit. Experiment station tests show that yields are often as much as 15% higher with DITHANE M-22 than with other types of fungicides. Some growers claim it's all due to better control of anthracnose, early and late blight, gray leaf spot and Septoria leaf spot. Others point out that the improved condition of the foliage is another benefit. Find out for yourself . . . use DITHANE M-22.

---

**RHOTHANE FOR INSECTS**

*For better tomato insect control, use RHOTHANE with DITHANE. RHOTHANE checks fruitworms, hornworms, pinworms, flea beetles, psyllids, and thrips.*

*DITHANE and RHOTHANE are trade-marks, Reg. U.S. Pat. Off. and in principal foreign countries.*



Chemicals for Agriculture  
**ROHM & HAAS  
COMPANY**

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*Representatives in principal foreign countries*







Paper-brush protectors and hot caps are used in the desert valleys of the Southwest for growing tender crops out of season. Right—Clear plastic films can be substituted for hot caps or used to cover mature crops in late fall. They offer small protection against radiation losses but do trap heat during day.



# Don't GAMBLE with FROSTS

Be prepared to protect your plants against frosts by using one or more of these methods

By PHILIP A. MINGES  
Cornell University

**UNSEASONABLE** frosts are costly to vegetable growers. In many cases little can be done to ward off all damage from frosts, but frequently a grower can take some precautions or use some practices that will minimize his losses.

This is particularly true for late spring and early fall frosts which normally are relatively light. If a grower can escape serious damage from these, he often will have two or three extra weeks of favorable growing or harvesting weather.

When a vegetable grower gambles with the frost hazard, he should try to have as many factors working in his favor as possible. These involve the selection of the site and the adoption of cultural practices that afford some protection, as well as paying close attention to the prevailing frost patterns of his district. When the stakes are fairly high, he may also find it profitable to provide protective measures such as plant protectors, heating, irrigation, or wind machines.

To make the most effective use of all these factors, a grower must have

a general understanding of the natural laws influencing the occurrence of frosts and the procedures for combating them.

Frosts or freezes arise principally from two different climatic conditions: 1) cold air masses moving into the area, and 2) loss of heat due to excessive radiation. The first type of frost, sometimes in the form of a storm, usually covers a fairly large area and is difficult to combat because of the massive chilling potential. The radiation type, which is the one usually involved in late spring and early fall frosts, is much easier to combat.

Radiation involves the loss of heat from soil, plant leaves, and fruits to the open cold sky. When the temperatures of the radiating objects fall below 32°, frost is formed. The air is cooled by contact with the radiating objects and, therefore, on still nights the air nearest the plants or ground may be much colder than the air a few feet above. This is one reason why frosts sometimes occur when reported official temperatures are well above freezing.

The loss of heat by radiation is favored by low moisture content of the air, and on nights when the humidity is relatively low, radiation losses as



Glassine hot tents are often used to cover early spring plantings of tomatoes, peppers, and eggplant. They trap heat, prevent wind damage, and provide some frost protection except for the leaves that touch the paper.

high as one million B.T.U. per acre per hour have been reported. Under these conditions of clear, quiet nights temperatures drop rapidly and damaging frosts are most likely to occur. On clear nights with some wind movement frosts may be less troublesome because of the mixing of the warmer upper air.

Also, as the relative humidity increases, radiation decreases. Thus, on cloudy nights the temperature drop is

(Continued on page 54)

# THE VEGETABLE

This is the eleventh in a series on the important vegetable areas of the United States. New Jersey, Florida, Eastern Virginia, Arizona, Mississippi, Louisiana, Long Island, Maine, and California's Imperial-Coachella and Central Valleys were visited in previous articles.—Ed.



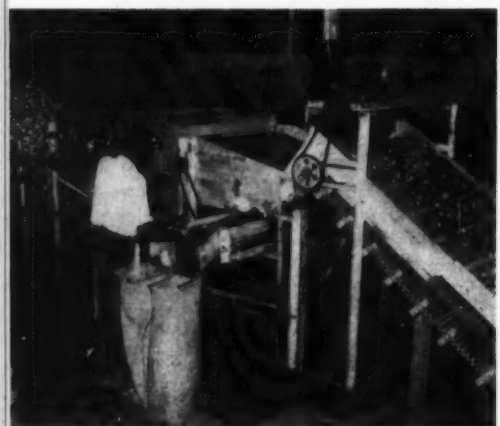
Snap bean harvesting in Charleston County.

By **JEROLD F. PITTMAN**  
The Clemson Agricultural College

**S**OUTH Carolina is well suited climatewise and soilwise for the production of vegetable and truck crops. A wide variation in climate, soil, and growing conditions from the Blue Ridge Mountains to the Atlantic Ocean makes the state a highly versatile vegetable producer.

As a result of this versatility, one finds here some quantity of almost every vegetable crop grown in the United States. In most areas the growers are specialists in their trade, and their crop is important locally, even though the importance of some crops may be relatively minor on a

Mr. Pittman is on leave of absence from Clemson at the present time, while completing work on his doctorate degree at Pennsylvania State University.



Early Irish potatoes are washed, dried, graded, and bagged by machine in Charleston County packing house. Sebago is main variety.

national or state basis. In almost every county there are areas where truck crops constitute an important enterprise on some farms.

The major vegetable and truck crop producing areas are located in the lower half of the state: in the Sandhills, the Lower Coastal Plains, and the Upper Coastal Plains. All of these areas have sandy or sandy loam soils well suited to truck crops. Some of the counties in these areas produce as many as a dozen different vegetable crops. The South Carolina Agricultural Experiment Station maintains a branch station in each of these areas. These stations conduct research work with the truck crops most prevalent in their areas.

Several counties derive a very substantial percentage of their farm income from truck crops. Charleston and Beaufort counties, for example, receive 65 to 75% of their total annual farm income from vegetable crop production. The major watermelon producing counties such as Barnwell, Hampton, and Allendale collect much of their total farm income from this crop alone.

Most vegetables are harvested and sold in the late spring and early summer with the exception of sweetpotatoes, which are usually sold in the late summer. In addition, some of the Piedmont counties, chiefly Spartanburg, Anderson, and Greenville, successfully produce late summer crops of watermelons and fall crops of tomatoes and cantaloupes.

The state's more important vegetable crops include lima beans, snap beans, cowpeas, cabbage, cantaloupes, sweet corn, cucumbers, Irish potatoes, pimiento peppers, sweetpotatoes, tomatoes, and watermelons. There are other crops such as radishes, broccoli, turnips, spinach, green peas, lettuce, squash, and okra which are produced in limited quantities in certain local areas. The total volume of these miscellaneous crops is rather small, and the general trend seems to be downward, as acreage has tended to decrease each year since World War II.

**Lima Beans:** Grown commercially in about nine counties including Or-

angeburg, Williamsburg, and Charleston, the annual production amounts to some 100,000 bushels from about 2000 acres.

**Snap Beans:** This crop is produced commercially in 21 counties of which Orangeburg, Florence, and Charleston lead in acreage. From 10,000 to 12,000 acres are planted to snap beans annually in South Carolina.

**Cowpeas:** Grown in volume almost nowhere else in the United States, cowpeas make up a substantial part of the diet of Southerners, and are known by a variety of names including southern peas, crowder peas, field peas, and corn-field peas. This crop is grown on farms in all sections of South Carolina, and much of the



Loading Congo watermelons in Allendale County.

production is consumed on the farm. Approximately 1700 acres are currently being devoted to this crop, with Lexington County leading in acreage.

**Cabbage:** Cabbage for commercial purposes is produced mainly in the Upper and Lower Coastal Plain areas, where nine counties grow about 2500 acres annually. Charleston County leads in production, with Orangeburg and Beaufort counties second and third respectively.

**Cantaloupes:** Cantaloupes are produced in 12 counties with a total production of 5000 to 6000 acres annually. The greatest concentration of production lies in the Barnwell, Chesterfield, Orangeburg, and Bamberg County areas. Production areas for cantaloupes coincide rather closely

AMERICAN VEGETABLE GROWER

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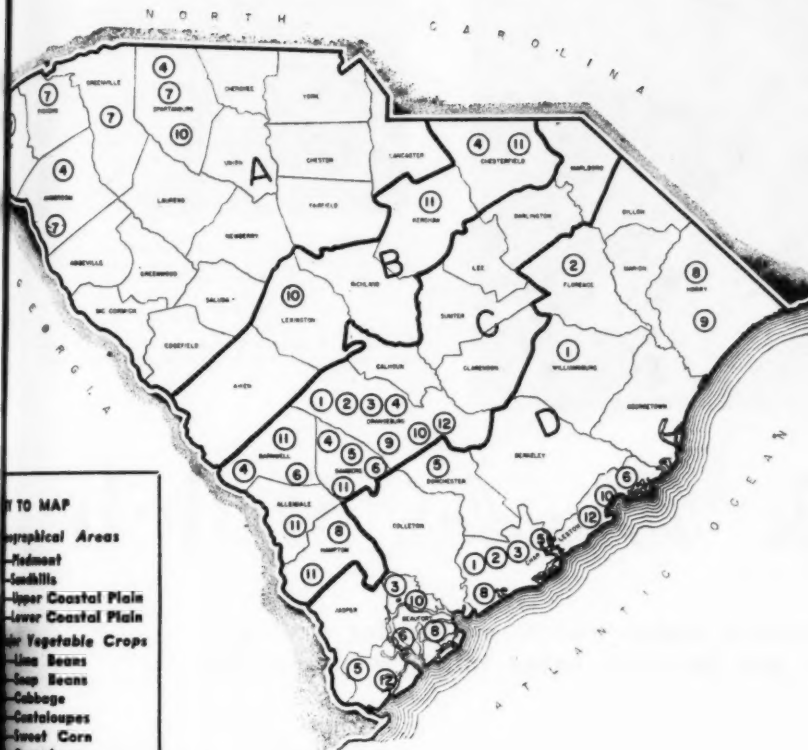


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TABLE GROWER



## TO MAP

- Geographical Areas
- Piedmont
- Lowlands
- Upper Coastal Plain
- Lower Coastal Plain
- Vegetable Crops
- Line Beans
- Snap Beans
- Cabbage
- Cantaloupes
- Sweet Corn
- Cucumbers
- Pimento Peppers
- Irish Potatoes
- Sweetpotatoes
- Tomatoes
- Watermelons
- Miscellaneous Crops

with watermelon production areas, as most producers of watermelons also grow cantaloupes. Some late summer and fall cantaloupes are produced in the Piedmont area in Anderson and Spartanburg counties.

**Sweet Corn:** Although South Carolina is not noted as a major sweet corn producing state, more than 1500 acres are planted to this crop annually. Over half of this acreage is located in Calhoun, Charleston, Beaufort, and Dorchester counties in the Coastal Plain area.

**Cucumbers:** Counties having the largest acreages of cucumbers are Barnwell, Beaufort, Bamberg, and Charleston. The commercial cucumber industry has been diminishing in importance during the past four or five years.

**Pimento Peppers:** The Piedmont area of the state is the largest pro-

ducer of pimento peppers with the bulk of the acreage concentrated in Greenville, Pickens, Spartanburg, Anderson, and Oconee counties. This crop has only become important in the last five or six years when a large cannery began to solicit production on a contract basis. About 2000 acres are devoted to the production of this crop. Some acreage of sweet peppers



Pimento peppers being loaded onto trailer truck in Anderson County for trip to cannery.

is to be found in the lower part of the state, mostly in Charleston, Florence, and Beaufort counties, but this crop is not as important as is the pimento crop.

**Irish Potatoes:** The Lower Coastal Plain area accounts for nearly all of the commercial acreage of Irish potatoes in this state. Charleston County is by far the most important producer, and along with Horry County accounts for about 75% of the total acreage. Most of the remaining acreage is in Hampton and Beaufort counties.

The Sebago is the most important variety, and is grown by almost all of the producers in Charleston County. Red Bliss, Pontiac, and Cobbler are other varieties which are grown  
(Continued on page 57)



Equipment used for spraying peaches doubles for spraying fall tomatoes in Spartanburg County.





Kordite Co.



Bakelite

There's no weeding and cultivating needed around tomato plants grown under black plastic film. Mulch also helps keep soil soft and moist.

Left—Tomato plants are planted through slits cut in the black plastic. Irrigation water and fertilizers also reach the plants through these slits.

# The Black 'Wonder' Mulch

**Get earlier maturity, higher yields, and better quality  
by growing beans and tomatoes under this new plastic film**

**By E. M. EMMERT**  
*University of Kentucky*

**B**EANS and tomatoes can be produced 10 days to two weeks earlier than usual by using a black plastic mulch. Furthermore, the increase in total yield was highly significant in preliminary tests at the Kentucky Agricultural Experiment Station.

Even more significant, the quality was better. This was due to the greater and more even moisture supplies and larger nutrient supplies obtained with less leaching and packing of the soil under the mulch. Probably an even greater contribution to quality was the reduction in disease, spotting, and cracking of fruits and pods. Of course, the suppression of weeds around the plants also contributed to higher yields.

The tomatoes were not staked, and yet the amount of spotting and rotting of fruit was small. The fruit did not come in direct contact with the soil. Also, there was little of the cracking and sunburning which so often occurs on staked tomatoes in hot weather. But the question is justly raised as to whether the expense of

the plastic and its installation was justified.

To test this out, about 4 acres of beans and about  $\frac{3}{4}$  of an acre of tomatoes were planted through plastic on a commercial farm. The first plastic was laid by hand, since a machine was not available. The land was worked as usual. Then furrows were laid off about 6 to 6½ feet apart. Four-foot-wide plastic was rolled over the furrow by using an iron pipe through the roll. Soil was placed on each edge with shovels, and a small amount was placed every few feet in the bottom of the furrow at the center.

The beans were planted with a corn jobber in each cheek of the furrow just as fast as if no plastic were there, so no extra expense was incurred here. However, setting tomatoes through slits took extra time since the slits had to be made by hand. Two men were required to lay the plastic. The time required to lay it is about 1½ days for two men per acre, or \$20 an acre with labor at \$6 to \$7 per day. Later, a machine was loaned by the Reynolds Metal Company. With this machine on a cub tractor the plastic was laid at the rate of 8 acres

a day, at a labor cost of about \$2 an acre.

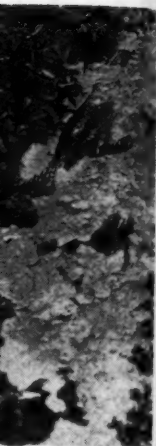
The plastic costs about \$125 for an acre. If all the ground had been covered, the plastic would have cost about \$200. The plastic used was 1½ mil black polyethylene. The total cost of plastic was then about \$145 an acre for one year on beans and some-

*(Continued on page 52)*



Laying black plastic strips by machine at the Kentucky Experiment Station. Film was laid at the rate of 8 acres per day with this machine.

AMERICAN VEGETABLE GROWER



Bakelite  
cultivating needed  
under black plastic  
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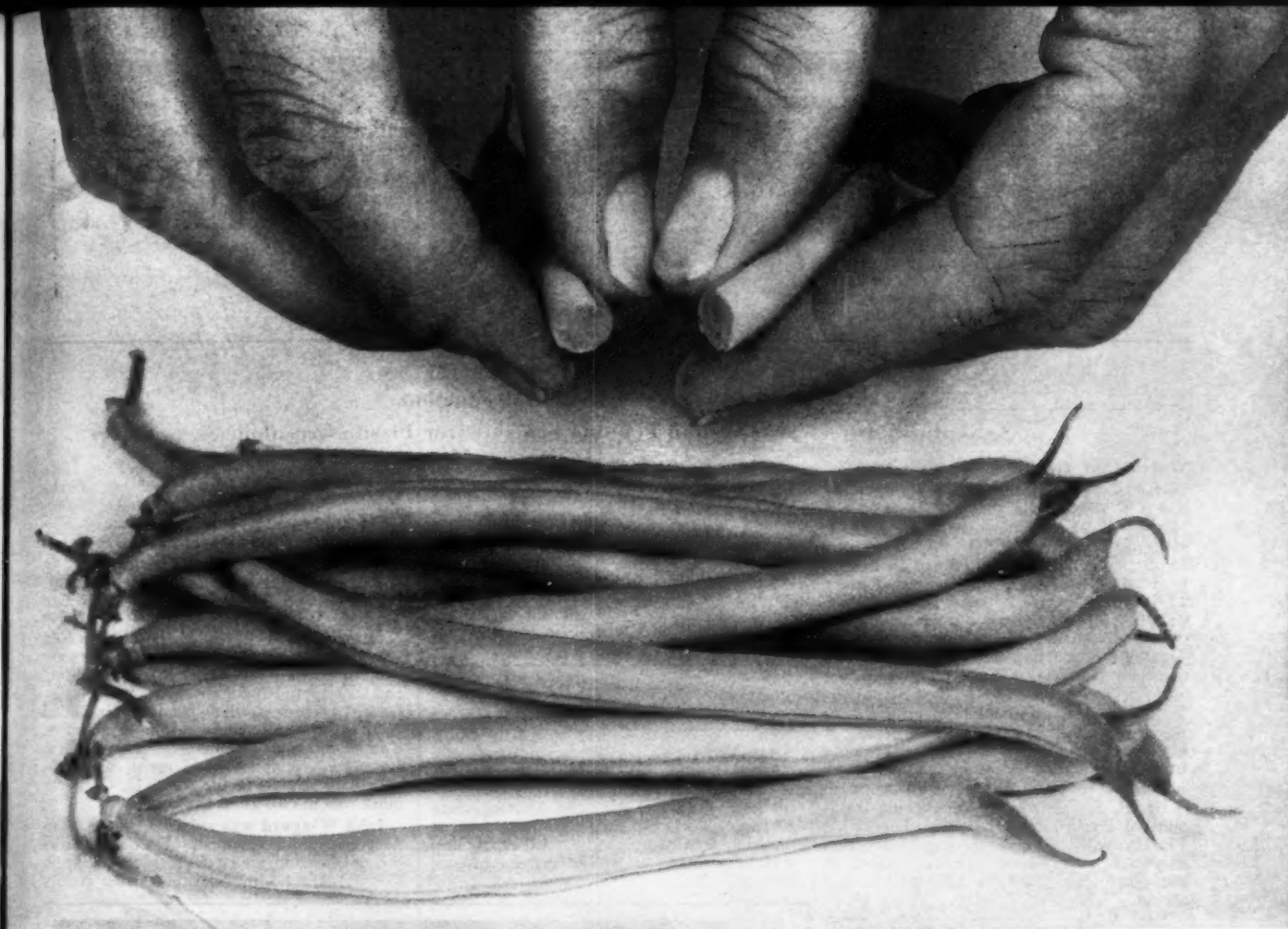
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TABLE GROWER



Tenderbest M. R. Bean produces unusually long, smooth, tender pods.

## TAILOR-MADE FOR DISEASE RESISTANCE

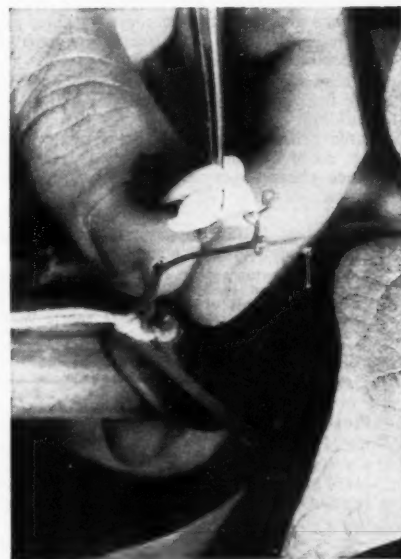
### Tenderbest M. R. Bean

This new stringless bean has been tailor-made by Ferry-Morse breeders for high resistance to Common Bean Mosaic, N.Y. 15 Mosaic, and Root Rot. The sturdy, upright bushes, which hold the pods well off the ground, make this strain very well adapted to mechanical harvesting. The long, slim pods keep very well during storage and shipping.

This is an ideal bean for both market and home gardeners, because Tenderbest's healthy plants produce heavier crops of No. 1 pods over a long season. Be sure to order enough now to supply all your customers.

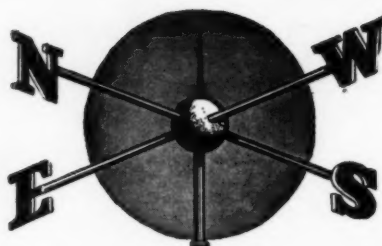
## FERRY-MORSE SEED CO.

Detroit, Mich. • Mountain View and Los Angeles, Calif.  
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FERRY-MORSE PLANT BREEDERS work year round to develop varieties best suited to your specific uses and growing conditions. Shown here is one step in cross-pollination—developing hybrids of greater productivity and higher resistance to disease.

# STATE



# NEWS

- Florida Aiming at Top Place in Vegetable Production
- Kentucky Offers Year-around Planting Schedule for Plastic Greenhouses

## Watch That Yield

**FLORIDA**—The Sunshine State predicts that they'll soon vie for first place in the production of vegetables with top-ranking California.

At current yields 8000 acres of land could produce 2½ million bushels of tomatoes or 1½ million bushels of snap beans. At the present rate of expansion this amount of land would be added each year to the state's vegetable production acreage bringing the present total of 445,000 vegetable producing acres up to 523,000 acres by 1965.

Vegetable growing has a big impact on the economy of Florida with 30 cents out of every dollar of farm income coming from vegetables harvested, as compared with 10% in California.

Dr. F. S. Jamison, of the Florida Agricultural Experiment Stations, believes that Florida will continue to supply a large share of the fresh vegetables shipped to the North and East in fall, winter, and spring.

Such varieties as Seminole snap beans; Florigreen pole beans; Rio Gold, Smith's Perfect, and Georgia 47 cantaloupes; Polomar Ashley, Stono, and Santee cucumbers; Manalucie and Homestead tomatoes; and Charleston Gray and Blackstone watermelons are but a few of the vegetables and varieties that find a lucrative spot in fresh vegetable markets.

However, Broward and Dade counties are feeling the all too familiar pinch of the building boom squeezing out their vegetable producing land and despite the need for more vegetable acreage this commonplace phenomenon is spreading into other areas.

## POTATO PUBLICITY

Some 40 restaurants and 30 hotels of the Maine Restaurant and Maine Hotel associations used colorful placemats of a Russet baked potato to help publicize and celebrate Maine Potato Week. The Maine Potato Commission and the Maine Department of Agriculture sponsored the promotion and provided the placemats free of charge.

## Plastic Greenhouse Schedule

**KENTUCKY**—Want a year-around planting schedule for plastic greenhouses? Here's one prepared by E. M. Emmert, horticulturist at the University of Kentucky experiment station.

*Jan. 10*—Plant cabbage family for plants in flats or beds. *Jan. 20*—Transplant cabbage. *Feb. 10-20*—Set lettuce and tomatoes; Bibb especially can be intercropped with tomatoes. *Feb. 15*—Start planting tomato and pepper seed; plant spring cucumber crop. *March 1*—Start transplanting tomato and pepper plants, continuing until *April 1* if plants are grown to sell to home gardeners.

*June 15*—Plant tomato seed for fall crop. *July 1*—Transplant tomato seedlings. *July 15*—Tear out old vines, rototill, treat with

methyl bromide, allyl alcohol (Vapam can be used but it takes at least two weeks to get out of the soil).

*Aug. 1-10*—Set tomato plants, or plant pole beans or cucumbers; *Sept. 15-Oct. 1*—Put on fresh plastic; *Nov. 15*—Transplant lettuce seedlings; *Dec. 10*—Sow tomato and lettuce seed for spring crop; *Dec. 15-30*—Take out old vines and rototill for lettuce, set lettuce plants.

See page 49 for  
State News Special Report

## New Officers

**MINNESOTA**—One of the most successful state vegetable growers' meetings was recently held at St. Paul. Subjects covered included plastic greenhouses, soil fungicides, social security, water resources, insects, and varieties.

New officers for 1957 include Fred Gerton, St. Paul, president; Orrin C. Turnquist, St. Paul, secretary-treasurer; directors: Eugene Peterson, Joe Germann, Sigurd Edling, Albert Johnson, Joseph Campanero, and John Ravenhorst, Jr.

The champion Minnesota potato judging team from the FFA chapter at Climax (in the Red River Valley), scored 298 points out of a possible 336 at the Red River Valley winter shows. The winning team of Richard Estenson, Roger Estenson, and Vernon Roningen was coached by George Norness. The contest included judging, grading, identification of varieties, insects, diseases, and defects. Teams came from FFA chapters, 4-H clubs, and sub-collegiate schools in the state. O. C. Turnquist was in charge of the contest.

John Wingard was selected by the Minneapolis Junior Chamber of Commerce as the outstanding young farmer of Hennepin County—the leading market garden county

## SPECIAL GREEN SCALLOP SQUASH

Especially bred for vigor, a delicate green color and a small blossom scar, this Robinson Strain is only one of over 50 Squash varieties we breed and produce. Are YOU profiting by using our Specialized Strains?

Lawrence Robinson & Sons  
MODESTO, CALIFORNIA

INSIDE OR ROBINSONS FROM YOUR SUPPLIER

## SPECIALIST VINESEED BREEDERS

CANTALOUPE • CUCUMBER • PUMPKIN • SQUASH • WATERMELON



WS

in the state. He owns a 280-acre farm where he grows potatoes and vegetables and applies soil conservation measures such as tree planting, drainage, ditching, and planting of cover crops. In addition he is active in the Minneapolis Market Gardeners' Association, and the Minneapolis Vegetable Growers.—Orrin C. Turnquist, Sec'y, St. Paul.



#### SOUTHERN ILLINOIS GROWERS ORGANIZE

Happy over the growing membership roll in the newly organized Southern Illinois Vegetable and Small Fruits Growers Association are Roy Schwartz, Cobden (left), vice-president of the new group; Harold Fingerhut, East St. Louis, vice-president of the Illinois Vegetable Growers Association; and Glenn Stadelbacher, Cobden, secretary-treasurer of the new Southern Illinois group. Absent from the photo is Ralph Griffith, Cobden, new group president. Fifty-eight growers, representing 11 southern Illinois communities, attended the organizational meeting of the group, which plans to affiliate with state and national vegetable growers associations.

#### Edisto Cantaloupe

**SOUTH CAROLINA**—It is predicted the new cantaloupe variety, Edisto, developed by Dr. Morris B. Hughes, horticulturist at the Edisto Branch Experiment Station, Blackville, will have great appeal to the consumer. It is a deeper and richer salmon color than most commercial varieties; has noticeably thicker flesh, a high sugar content, a tender yet firm texture, and keeps well.

Edisto is also favorable from the grower's standpoint. It is quite resistant to alternaria and powdery mildew and tolerant to downy mildew. Yields are excellent. Although it does not usually produce as many melons to the acre as Hale's Best Jumbo, the melons average larger. Edisto ripens a week later than Hale's Best Jumbo. The new variety also ships well.

Limited amounts of seed are available to commercial seedmen and a limited number of growers at the Seed Certification Office at Clemson.

#### New Co-op

**GEORGIA**—At a recent meeting presided over by John Foreman, the Bacon County Co-operative was organized to process and market vegetables grown by members. Marketing will be aimed at eastern supermarkets and military installations.

Membership fees of \$25 for land owners and \$12.50 for tenants, in addition to the initial capital raised, will be used to pay a manager and set up facilities to handle, process, and ship produce from Alma, where two warehouses have been made available until the co-op can build its own facilities.

At least 97 infestations of sweetpotato weevils were discovered in Grady County when winter check-up was made by state and Federal entomologists. The weevils constitute a serious threat in this section where sweetpotato production provides a substantial income.

General quarantine regulations continue in effect, but the weevil program for 1957 (Continued on page 46)

Growers, Processors, Pre-Packers  
Save Labor, Money—Improve Quality

# Generalift

WIREBOUND  
PALLET  
BOXES

For Bulk Handling, Harvesting, Storing  
and Shipping Fruits and Vegetables

#### STURDY HARDWOOD

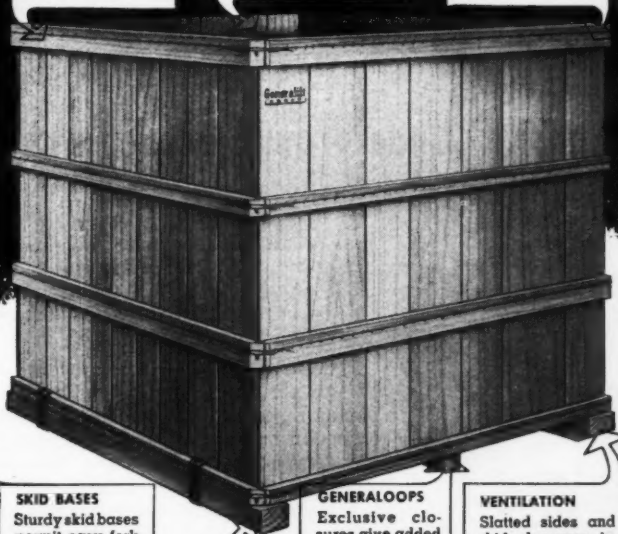
Rugged resawn northern hardwoods give greater strength, longer life.

#### HANDLES HEAVY LOADS

Readily handles ton loads of produce and can be stacked four high.

#### EXTERIOR CLEATS

Leaves interior clear and free of bruising projections—adds to strength.



#### SKID BASES

Sturdy skid bases permit easy fork lift or tractor lift entry. Simplifies stacking.

#### GENERALOOPS

Exclusive closures give added strength, easily applied, permits disassembly.

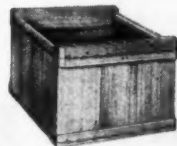
#### VENTILATION

Slatted sides and skid clearance in stacks gives ideal ventilation through bulk loads.

Generalift® pallet boxes are designed to save labor, time and money . . . help improve quality in the bulk handling of agricultural products. They're built to withstand the rigors of exposure, rough use, heavy loads and high stacking in storage.

They are widely used to harvest, handle, store and ship bulk loads of literally every fruit and vegetable with impressive records of service and savings. Initial investments are quickly recovered through pallet box economies.

Available in several standard types and sizes to fit every agricultural need.



#### LONG-LIFE, LOW-MAINTENANCE PICKING BOXES

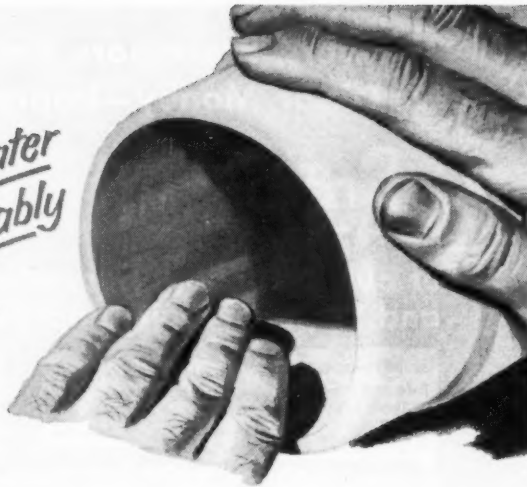
Rugged wirebound construction and tough resawn hardwoods combine to make the sturdiest picking boxes available. Cut maintenance costs, get more service from your picking boxes. Available in 1 bushel and 1 1/4 bushel sizes. Stack securely, nest in storage.

# General Box

Send for your copy of the Generalift  
Agricultural Catalog Today.

1855 MINER STREET  
DES PLAINES, ILL.

*Feel why  
irrigation water  
costs noticeably  
less...*



## ... with Transite® Underground Feeder Mains!



**Why Transite** is your best protection against costly leakage—the patented Ring-Tite coupling (cut-away view above right). Rubber rings compressed and locked in grooves to provide a lasting, water-tight seal. With all its tightness the Ring-Tite joint is quickly, easily assembled to save time and expense of installation!

Glasslike smoothness! That's the money-saving advantage of Transite... the big reason why the cost of sprinkler water is less—and noticeably so—with Transite underground mains!

Why? Simply because there's no needless waste of fuel or power, no overworking pumps forcing water through corroded or rough pipe interiors. Instead, water is pumped easily—with little turbulence—through the smooth Transite interior. And, equally important, Transite maintains this fuel-saving advantage since it is immune to tuberculation—a form of interior corrosion that retards water flow by reducing pipe diameter.

In installation, this smoothness *you can feel* also pays off. It assures maximum water flow, often making possible the use of a smaller diameter pipe than otherwise. This reduces the initial costs of installation.

**Transite is built to last!** Made of tough, durable asbestos-cement, Transite need not be "coddled" or handled with unusual care. It is made to withstand the rugged service of mechanized farm operation. Transite is protected further against vibration and line stresses by the flexible, yet tight, Ring-Tite® coupling that gives the entire line needed resiliency.

For further information on Transite, use the coupon below. Mail it now! There's no obligation.

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SEND COUPON FOR DETAILS

Johns-Manville, Box 14, New York 16, N. Y.

I would like to know more about Transite pipe for underground Sprinkler Mains

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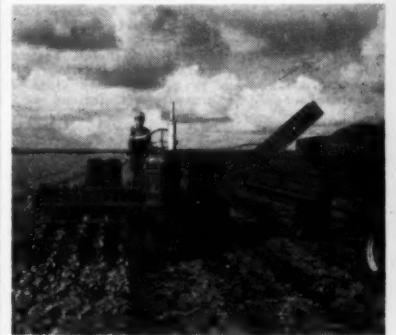
## RADISH HARVESTER

**New multiple-row harvester  
pulls, tops an acre an hour**

**A**N Ohio grower who produces vegetables in Florida during the winter months has invented a multiple-row radish harvester which pulls and tops 10 acres in a 10-hour day, replacing about 300 laborers.

He is Calvin Lust, of Chatfield, Ohio, who, with his brothers, Cloyd, Marlon, and Grant, operates Lust Farms at Zellwood, Fla., during the winter. They are successfully farming 600 acres of highly productive muckland.

Their operation includes 1500 acres of radishes which are graded and



Radish harvester in operation on Lust Farms, Zellwood, Fla., harvests five rows at one time.

packed through their packing house and precooling plant located near the farm.

The harvester travels at a speed of about 3 miles per hour. It is attached to the right side of an International tractor unit No. 200, and is driven by the tractor power take-off. With minor adjustments it can be used with other makes of tractors.

Adjusted to harvest five rows planted 9-inches apart in a 63-inch bed, it can be adjusted to different bed-widths and numbers of rows per bed.

The radishes are pulled by the tops between pairs of moving V-belts, and are carried to revolving knives for topping. They are then conveyed to a 20-bushel capacity self-unloading trailer which moves alongside the tractor opposite the harvester. The trailer is detached when loaded and is moved in tandem to the packing house.

The Lust radish harvester has been used successfully under field conditions since 1955. It is being used by growers in Florida, Ohio, and Michigan.—*J. Claude Epting, Asst. Agr. Agt., Seaboard Air Line Railroad Co.*

AMERICAN VEGETABLE GROWER

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ETABLE GROWER

## The vegetable growers' No. 1 tractor... now with **MORE POWER FOR '57**



### THE **NEW** McCORMICK® FARMALL® 130

**Stepped-up power** of the Farmall 130 tractor now easily handles a two-furrow Fast-Hitch plow, or six-foot disk harrow to speed up seed-bed preparation. And, it's power *put to better use* for every step in vegetable production! . . . with famous Farmall Culti-Vision for hoe-close work, and two-way hydraulic Touch-Control for the ultimate in controlling depth of sweeps or shov-

els. Match your crops with one, two, or four-row McCormick cultivators with rows spaced from 12 to 68 inches apart.

**Add time-saving convenience** of Fast-Hitch—just Back... Click!... and Go, *in seconds*, to hitch or switch rear-mounted equipment. Power costs come *down*, manhour production goes *up*, with a new Farmall 130!

**Drive a new Farmall!** See how it makes tractor power more useable and more useful with exclusive Farmall features. Ask your IH Dealer about the liberal IH Income Purchase Plan.

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INTERNATIONAL  
HARVESTER DEALER**

International Harvester products pay for themselves in use—McCormick Farm Equipment, Farmall and International Tractors . . . Motor Trucks . . . Construction Equipment—General Office, Chicago 1, Illinois.

APRIL, 1957



**For BIG 2-plow power,** see the new Farmall 230 with new Hydra-Touch®, and Fast-Hitch with Traction-Control and Pilot Guide! Available with 2, 4, or 6-row cultivator.



# Boost yields with 45% nitrogen apply **Du Pont NuGREEN®** FERTILIZER COMPOUND —it's concentrated for efficiency

## SPREAD NuGREEN®



Top-dressed, side-dressed or plowed down, "NuGreen" feeds crops nitrogen as they need it for profitable, season-long growth. "NuGreen" aids decay of plant residues and cover crops, and it resists leaching.

## SPRAY OR IRRIGATE WITH NuGREEN®



Sprayed on foliage or dissolved in irrigation water, "NuGreen" feeds crops nitrogen through leaves and roots, giving them a growth boost almost instantly. "NuGreen" can be combined with pesticide sprays for even greater application economy.

## FLY ON NuGREEN®



Uniform distribution by air is easy with Du Pont "NuGreen" because it is concentrated 45% nitrogen in free-flowing shot form . . . gives you more coverage per flight. "NuGreen" won't corrode equipment and saves you labor because you handle less material per unit of nitrogen.

**You profit with Du Pont "NuGreen"** no matter how it's applied . . . your crops will be fed nitrogen for maximum growth and yields. "NuGreen" comes in 80-lb. bags—order Du Pont "NuGreen" from your supplier today.



*it's concentrated  
45% nitrogen*



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

## Answering Your QUESTIONS

Don't let your questions go unanswered. Whether large or small, send them with a three-cent stamp for early reply to Questions Editor, AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

### MELONS IN VERMICULITE

Has any work been done with growing melons in vermiculite or peat moss in plant bands?—California.

We aren't acquainted with any experimental work being done on the use of vermiculite or peat moss in plant bands for growing melons before transplanting to the field, but we don't know of any reason why this method of culture wouldn't work.

### PLASTIC BAGS

Please send me a list of companies that manufacture plastic bags for packaging vegetables.—New York.

We are sending our reader a tear sheet from our July Buyer's Guide issue which lists manufacturers of plastic bags.

### KATAHDIN POTATO SEED

Where can I purchase seed of the Katahdin potato?—Kentucky.

Some of the larger seed distributors are: Maine Potato Growers, Inc., Presque Isle, Maine; Aroostook Potato Growers, Presque Isle, Maine; Reed Seed Brothers, Fort Fairfield, Maine; and Eastern States Farmers Exchange, W. Springfield, Mass.

### DOUBLERICH TOMATO

I read about the high-vitamin tomato, Doublerich, in the December issue of AMERICAN VEGETABLE GROWER and would like to know where I can obtain seed.—Connecticut.

Try Billy Hepler Seed Co., Durham, N. H., and O. H. Will & Co., Bismarck, N. D.

### TOMATO GROWER ORGANIZATIONS

We are interested in the tomato grower organizations in the different states. Could you give me the names and addresses of the secretaries representing Ohio, New York, California, and Indiana?—Ontario.

Ohio Top Ten Tomato Club, Room 210, Horticulture Bldg., Ohio State University, Columbus, Ohio, Secretary, E. C. Wittmeyer; New York Canning Crop Growers Co-operative, Inc., 420 E. Main St., Batavia, N. Y., Secretary William Stempfle; New York State Vegetable Growers Association, Inc., Baldwinsville, N. Y., Secretary-Treasurer, W. B. Giddings; Central California Tomato Growers Co-operative, Inc., P. O. Box 696, Merced, Calif., Secretary, Jack Rogina; Fresno Tomato Growers Association, 5477 E. Tulare, Fresno 2, Calif., Secretary, Joseph E. Rebella; Merced Tomato Growers Co-operative Association, P. O. Box 672, Merced, Calif., Secretary, Leo Giobetti; Tomato Growers Association of California, 145 South American St., Stockton, Calif., Secretary-Manager, Howard J. Wilson; Master Craftsman Club, Department of Horticulture, Purdue University, Lafayette, Ind., F. C. Gaylord.

### MUSHROOM GROWING BULLETIN

Can you tell me where I can get information on growing mushrooms?—New York.

Write to the Superintendent of Documents, Government Printing Office, Washington 25, D. C., and ask for Cat. No. A19:1875 entitled "Mushroom Growing in the United States." Include 15 cents (no stamps) to cover cost.

AMERICAN VEGETABLE GROWER

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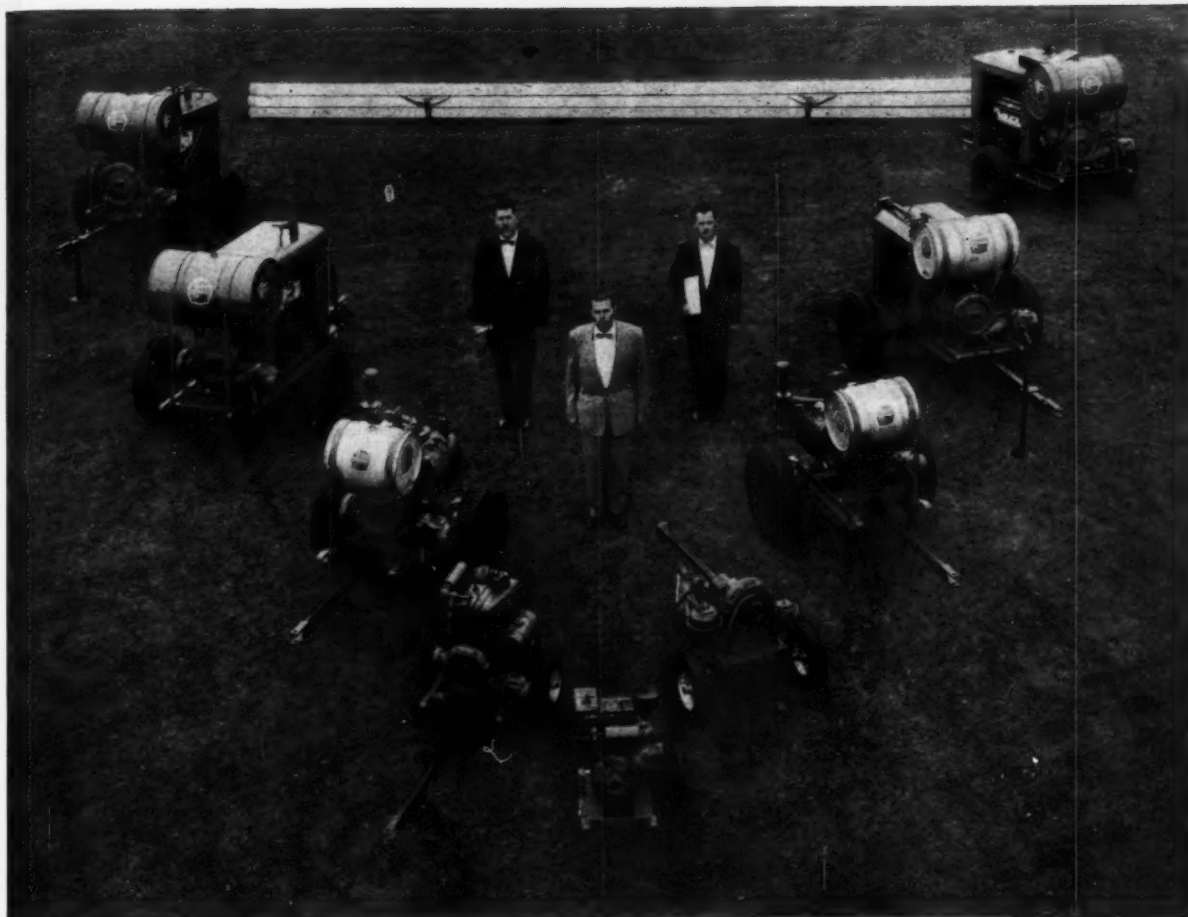
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ETABLE GROWER



Your Gorman-Rupp Dealer serves you with an

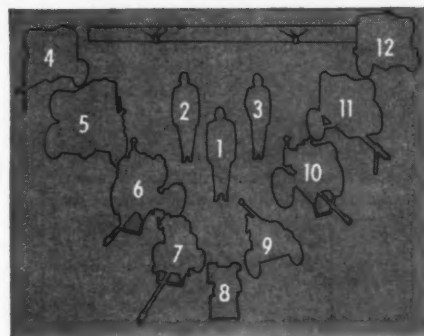
## IRRIGATION TASK FORCE

**Y**OU'RE ABOUT READY to go into irrigation. Your remaining problem is how to buy . . . how to make sure your dollars will bring big returns. You can profit by what others have learned.

Experts agree that a "homemade" system built piecemeal can cause lots of trouble. On this point, Gorman-Rupp has always recommended *engineered systems*—where pump, pipe, couplers and sprinklers are matched to the job.

The Gorman-Rupp pump man near you knows how to plan a system. He knows that the needs of your crops, soil and land contours call for an Irrigation "Task Force." He uses Gorman-Rupp Irrigation Pumps as the key member in his "Task Force" team. They have the solid backing of satisfied users in all sprinkler irrigation areas.

Be practical about irrigation. Get an engineered plan from your Gorman-Rupp dealer today.



Pictured are (1) Mr. G. Wesley Cadman, (2) Mr. Arthur L. Cadman, (3) Mr. Andy Kesteloot of Cadman Power Equipment Co., Courtland, Ontario. Gorman-Rupp Irrigation Pump models shown are: (4) 55A-265, (5) 55B-IND30, (6) 54A-VG4D, (7) 53M-TFD, (8) 6201, (9) 64A-G, (10) 53H-VF4D, (11) 54M-CJ3A, and (12) 55M-IND56.

## THE GORMAN-RUPP COMPANY

305 Bowman Street • Mansfield, Ohio

APRIL, 1957

21

# fmc Stericooler HYDROCOOLER



FOR IMPROVED  
HYDROCOOLING OF:

SWEET CORN — CARROTS  
CELERY — ASPARAGUS — BEANS  
RADISHES — PEAS — CAULIFLOWER  
SPINACH — LETTUCE  
GREEN ONIONS — AVOCADOS  
EGGPLANT — CHERRIES — BERRIES  
PEACHES — APRICOTS  
CANTALOUPE — APPLES  
BROCCOLI

## The 1957 Hydrocooling Unit ...Proved and Improved over 15 years!

Today, hydrocooling is the recognized method of increasing the saleable life of fruits and produce from grower to market. In this field of hydrocooling, the FMC Stericooler stands as the undisputed leader. An FMC Stericooler installed in your plant is on the job constantly to retard decay — cut trimming losses — protect produce from transit decay — deliver produce garden fresh and fruits tree ripened. Get the new 1957 FMC Stericooler hydrocooler! Compact metal construction...increased cooling capacity...new low price...and available in 5 capacities!



MAIL COUPON  
TODAY ▼

### FLORIDA DIVISION

FOOD MACHINERY AND CHEMICAL CORP.  
P. O. Box 1718, Lakeland, Florida

Gentlemen: Kindly send me more information on the new STERICOOLER.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

RFD NO. \_\_\_\_\_

SC-48



Howard Borggaard is shown fitting a crosspiece to connect and hold two plywood boxes on cultivator frame of his tractor. Borggaard rigged up this carry-all to simplify corn harvest.



This pickup body connected to the hydraulic hoist can be raised, lowered, or dumped.

## HANDY TRACTOR CARRY-ALLS

Here are two money-saving ways  
of having extra equipment

**W**HY tie up money in extra vehicles? Market grower Howard Borggaard of Worcester County, Worcester, Mass., does as much work as possible with his tractor by using two home-made carry-alls.

One handy carry-all, made up of a 1934 V-8 pickup box, is mounted on an old plow frame with a subsoil chisel for a base, and attached so it can be raised or lowered hydraulically, or dumped by pulling a pin. To attach, he pushes down on a couple of snap couplings.

Several crosspieces are welded to the underside of the box to strengthen it. This body comes in mighty handy when picking rocks, pumpkins, or doing other odd farm jobs where a light truck would be required. The carry-all can be loaded on the ground, raised hydraulically for moving, then lowered onto a porch or the ground for unloading. Picking corn the way Howard

does it is easy. He places two plywood boxes on the front cultivator frame and connects with a cross board and a couple of bolts. He drives right through a field of sweet corn that's ready for picking and with three youngsters working around the tractor, he can load 6 to 8 bushels in front and 150 dozen in the rear carry-all.—Charles L. Stratton.

### UNCATALOGUED VARIETIES FOR SEEDSMEN

Seedsmen who would like to conduct trials of uncatalogued vegetable varieties before they are actually introduced to the trade may send for a list of available varieties.

Prepared by Dr. H. M. Munger, of Cornell University, under the auspices of the American Society for Horticultural Science, the list, "Uncatalogued Vegetable Varieties Available for Trial in 1957," may be obtained by writing Cornell Vegetable Crops, Ithaca, N.Y. The addresses of the plant breeders from whom the seed is available, along with brief descriptions of the varieties, are included.

AMERICAN VEGETABLE GROWER





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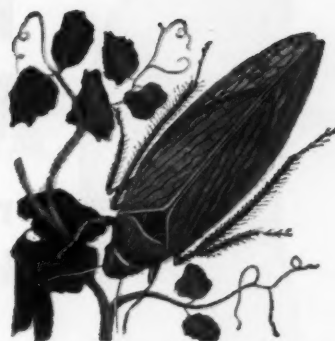
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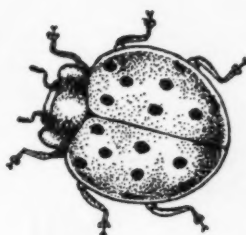
Aphid



Leafhopper



Thrips



Mexican Bean Beetle



Mite

**Deadly to insects...**

**offers safety in use ...  
avoids residue problems**



In 1957, malathion offers more than just insect control. Here's how it stops the bugs; gives your workers extra protection; avoids residue problems.

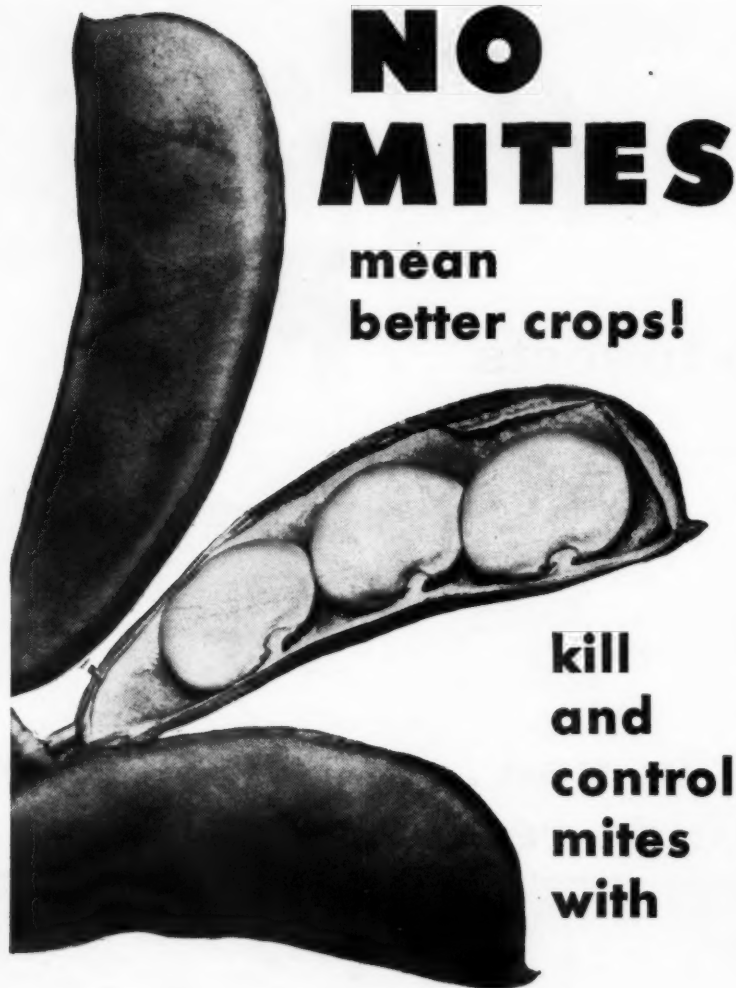
Malathion kills aphids and mites as well as beetles, leafhoppers, thrips, other major pests on 47 crops. It's the basis for a *complete* insect control program. Malathion's compatibility with other insecticides lets you add whatever material is necessary for special problems. **Offers safety in use** — Malathion is the *only* phosphate insecticide that makes safe handling easy. Precautions necessary are similar to those for DDT. Respirators, special protective clothing, are *not* required.

**Spray most crops as close as 72 hours from harvest** without residue problems. Because malathion is *low* in toxicity to man and animals, it has a high residue tolerance... the *only* phosphate that does. And, residues disappear rapidly. **Free Grower's Guide**—Write American Cyanamid Co., Agr. Chem. Div., Dept. VI, 30 Rockefeller Plaza, New York 20, New York.

**CYANAMID**

**MALATHION**

insecticides have many uses on every kind of farm



# NO MITES

mean  
better crops!

kill  
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control  
mites  
with

## ARAMITE

There's more money for you from better crops. A small per-acre investment in Aramite can make a big dollar difference. Year after year, field results nationwide prove the bigger and better yields you can expect with Aramite—the safest, best-known mite-killer today.

Aramite gives outstanding control of most mite species including Two-Spotted, Atlantic, and European Mites. Equally effective on melons, citrus, corn, tomatoes, apples, peaches, and ornamentals. It is compatible with most insect and fungus-killing chemicals, has longer residual activity and is non-hazardous to humans and animals.

For more than 19 fruit and vegetable non-fodder crops, including lima beans, the Miller Amendment (Public Law 518) has approved Aramite with a tolerance established of one part in a million.



**United States Rubber**

**Naugatuck Chemical Division**

**Naugatuck, Connecticut**

producers of seed protectants, fungicides, miticides, insecticides, growth retardants, herbicides: Spergon, Phygon, Aramite, Synktor, MN, Alanap, Duraset.

## HE LIKES TO TRY NEW IDEAS

**Georgia grower follows new methods in tomato production**

By **ELDON S. BANTA**

**V**EGETABLE growing took on a new look for Joe Lutz of Normal, Ill., when he purchased 820 acres in south Georgia near Pelam a few years ago. He considers this an ideal location from the standpoint of production, and tomatoes are one of his leading crops.

A progressive fertility program is being carried out on the Lutz farm, with a few new wrinkles. Fertilizer and lime are applied to a depth of 24 inches with a subsoiler. The first,



Deep tillage tool puts fertilizer and lime down to depth of 24 inches on the Joe Lutz Farm.

at planting time, consists of 1000 pounds per acre of a mixture of half 4-12-12 and half 5-10-5. Plants are set with a starter solution consisting of 30 pounds of 15-30-15 to 1000 gallons water. Isotox is added for control of soil insects.

Ten to 15 days after plants are set they receive a side-dressing of 3-9-9 and 1000 pounds per acre of ground limestone applied at the 12- to 15-inch depth. In addition to the ground applications of fertilizer, tomatoes receive 80 pounds per acre of ammonium nitrate through the irrigation system when plants begin to bloom.

Another method of fertilization on trial is the application of Nutri-Leaf (Miller Chemical) through the sprayer during regular pest control sprays. The fertilizer is mixed at the rate of 25 pounds per 500 gallons of water.

### Ten Irrigation Ponds

Having a six months' supply of irrigation water in reserve is an important insurance policy in vegetable

*(Continued on page 26)*

**AMERICAN VEGETABLE GROWER**

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ETABLE GROWER

# woodruff seed

FOR A BETTER CROP OF

# Sweet Corn



### VICTORY GOLDEN HYBRID

One of the leading and most outstanding Yellow Hybrids for processing. It is being used extensively by many of the largest Sweet Corn packers.

Matures in Golden Cross Bantam Season. Ears are 8-8½" long and have 14 to 18 rows with colorless inside silks. Stalk height approximately 7½ feet. Exceptionally fine quality. Adaptable for whole kernel, cream style or frozen pack.

Strong root system prevents lodging. Yields of 5 to 6 tons per acre not uncommon, with recovery of 35 to 37 cases per ton. Holds several days in canning stage. Well adapted to mechanical picking, tolerant of drought.

Don't be disappointed later—place your order now!



## F. H. WOODRUFF & Sons, Inc.

### Seed Growers

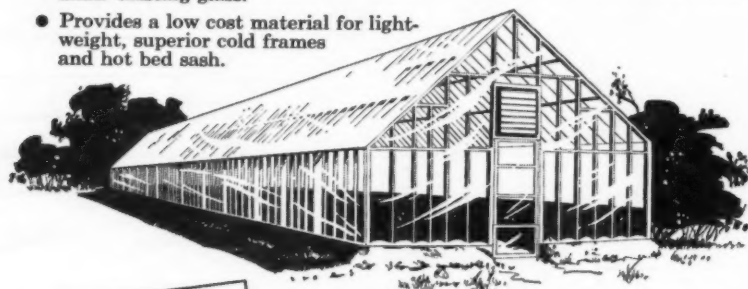
Milford, Conn., Bellerose, L.I., Salisbury, Md.,  
Atlanta, Ga., Sacramento, Cal., Mercedes, Tex., Toledo, O.





### The lasting greenhouse glass replacement product

- Produces *better* crops than possible under glass.
- Permanent greenhouses can be built at a fraction of the cost of glass construction.
- Allows outdoor growers the opportunity to grow inside at low cost.
- Guarantees astonishing fuel savings when used as an insulating layer under existing glass.
- Provides a low cost material for light-weight, superior cold frames and hot bed sash.



**SISAL-GLAZE**

**beats glass and ordinary  
plastics 7 ways:**

1. Minimum 10-year life — indicated by scientific tests.
2. Maximum ultraviolet and infrared transmission.
3. No "sunburn" after transplanting outdoors.
4. Big fuel savings from reduced heat loss.
5. Cuts labor construction costs.
6. No sagging.
7. Low cost means more growing acreage per dollar invested.

**Caution:** As Sisal-Glaze is *not* a temporary material, a soundly designed permanent structure must be utilized for best results.

For complete information, supply source, and sample, write . . .  
American Sisalkraft Corporation, Dept. AV-4, Attleboro, Mass.

T.M. PLAX CORP.

### American SISALKRAFT Corporation

101 Park Ave.  
New York 17

205 W. Wacker Dr.  
Chicago 6

55 New Montgomery  
San Francisco 5



One of three irrigation pumps and motors on the Joe Lutz Farm in Georgia. A General Motors engine powers the 1100 gpm Aurora centrifugal pump. With three pumps like this one, 650 acres can be watered every eight days.

### NEW IDEAS

(Continued from page 24)

production, Lutz believes. He has built a system of 10 big ponds which practically surround his farm and supply water for almost every acre. Three 1100 gpm centrifugal pumps can water 650 acres in eight days. With plenty of water available Lutz can apply heavier fertilizer rates, and possibly the subsoil applications will benefit since roots can grow deeper to feed.

Careful cultivation of tomatoes practically eliminates hand hoeing. Cultivation is done with three one-row tractor cultivators (Farmall A-V). The first cultivation is with front shovels set 12 inches from the row. With each succeeding cultivation they are widened a little so as not to cut off developing roots. Beginning with the second cultivation disk hillers are used to better cover small weeds in the row. Tomatoes receive from six to eight cultivations during the season.

### Soil Fumigation

Pest control begins with soil fumigation, using 4½ gallons per acre of Dowfume W-85, applied 10 days before setting plants or planting seed. Thus far this method has given excellent results in the control of nematodes, wireworms, and soil insects. Spraying of tomato plants begins about 10 days after setting in the field and continues at weekly intervals to harvesttime. Employed for insect control in the spray mixture are DDD and parathion and for disease control, Manzate.

Tomato harvest begins the last of May and is usually finished by July 5. Some are picked for green-wrap and are shipped in wire-bound crates. Those picked in the pink stage are packaged in film bags. Homestead and Rutgers are the main varieties, the latter ripening 10 days later than Homestead.

THE END.

AMERICAN VEGETABLE GROWER



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# OLIVER

"FINEST IN FARM MACHINERY"

The big-capacity 400-gallon, 16-row Iron Age with row crop drop pipes and hydraulic cylinder control boom.

## How Iron Age Sprayers boost produce quality and profits

- ☆ Quick-set pump pressure  
adjusts to crop needs
- ☆ High spray output  
regardless of pressure selected
- ☆ Dependable high-pressure  
pump at low upkeep cost
- ☆ Full coverage boom  
conserves spray material
- ☆ Adjustable axle clearance and  
tread reduce crop damage
- ☆ Noncorrosive tank assures  
leakproof service

When quality is important and profits depend on topping the market, it's time to control vegetable pests with an Iron Age Sprayer. There is capacity to keep you up to schedule together with coverage to reach every plant surface—regardless of the crop or acreage you grow.

You get the famous Iron Age pump that positively cannot air-lock. Hydraulic pressure is easily adjusted to guarantee the penetration you need. And regardless of the pressure you select, the pump capacity remains high. Add the advantages of field-proved, full-coverage booms and you'll see how Oliver Iron Age Sprayers provide big-capacity pest control and conserve spray materials at the same time.

In addition, only Iron Age has such bonus features as adjustable tread width and axle underclearance to reduce damage to foliage plus your choice of noncorrosive, leakproof steel or wooden tanks in five practical sizes.

See your Oliver Dealer and arrange for an Iron Age Sprayer demonstration on your own farm. Get lined up today for better quality and bigger vegetable profits in 1957.

The Oliver Corporation  
400 West Madison St., Chicago 6, Illinois



# KILL QUACK GRASS



with **MH**

Quack grass is licked! Now MH not only reduces quack grass growth, but also eliminates this nuisance, in areas devoted to high-value crops. MH is so safe that seeds of vegetable and field crops can be planted on treated areas as soon as plowing and preparing the soil are completed. No soil toxicity.

Order MH from your local supplier today. Write, wire or phone us if unable to locate immediate source of supply.



**United States Rubber**  
**Naugatuck Chemical Division**  
Naugatuck, Connecticut

producers of seed protectants, fungicides, miticides, insecticides, growth retardants, herbicides: Spergon, Phygon, Aramite, Synklor, MH, Alanap, Duraset.

## MARKETING TEXAS YAMS

Buyers are assured of a steady supply of well-graded potatoes

By A. B. KENNERLY

**T**EXAS yam growers are placing greater emphasis than ever on the marketing end of sweetpotato production. In this era of mass food merchandising, they know the importance of assuring buyers of a steady supply of well-graded produce.

From a small area around Tyler in eastern Texas some 9 million crates of sweetpotatoes are shipped each year to buyers all over the country. Most of these yams are sold through shippers, a half dozen of whom handle about 50% of the crop.

A few of the large shippers are located near Grand Saline. They provide a ready market for small growers with upwards of 5 acres. The shippers themselves grow from 30 to 100 acres, but they buy most of the potatoes needed to fill orders for the big chain stores from other growers. The largest shipper handles around a half-million crates a year.

Sometimes, however, it is more profitable for growers to market the



Grading washed sweetpotatoes at Grand Saline.

crop themselves, especially if the hauling distance discourages shipment through established channels.

The growers around the village of Golden found themselves in such a situation. They organized the Golden Produce Company in September, 1955, and shipped 60,000 crates their first season.

### Wash, Wax, Grade

"We were fortunate in being able to lease an old tomato shed from the railroad," says H. W. Harmon, secretary-treasurer of the association. "We bought a new grader, (Continued on page 30)

AMERICAN VEGETABLE GROWER



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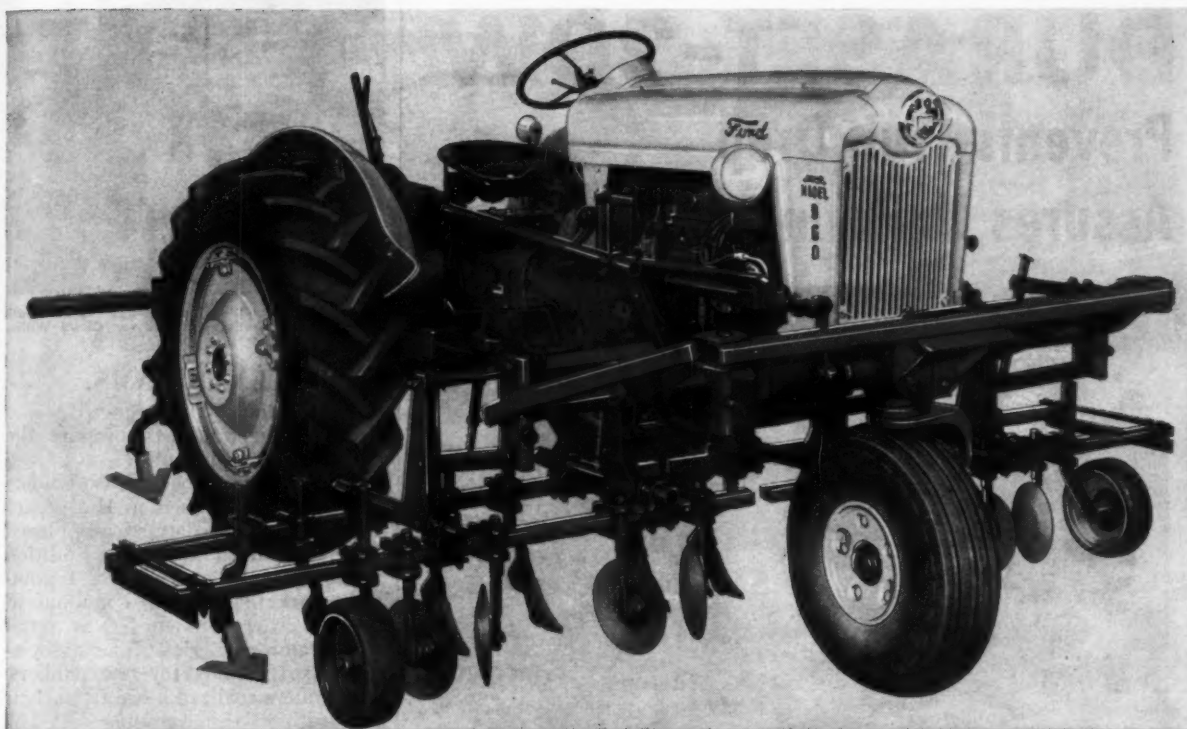


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# TOPS IN VEGETABLE CROPS!

## FORD SINGLE FRONT WHEEL MODEL TRACTORS

Note the improved C-type mounting of the front wheel. This reduces clogging and provides for easier tire changing. But that's not all.

All Ford row crop tractors are equipped with power steering as standard equipment—you don't pay a cent extra. You'll especially appreciate power steering when cultivating—gives you better steering control at all speeds without fatigue.

## FORD WIDE ADJUSTABLE FRONT AXLE MODELS

These Ford row-crop models also have power steering as standard equipment.

There are many more advanced features in new Ford tractors, such as Ford's powerful "Red Tiger" engines, live-action hydraulic system and 3-point linkage, Proof-Meter, weatherproof ignition, full-flow oil filter, safety starter switch and sure-action brakes—just to mention a few. See them!

## FORD VEGETABLE CULTIVATOR

The new front-mounted Ford vegetable cultivator is designed especially for vegetable growing areas. It gives excellent coverage with any row spacing from a minimum of eight 10" rows to a maximum of six 22" rows or four 34" rows. It can be used with any planting method—flat, bed or furrow. And it also has the built-in versatility demanded by most varying crop shapes—short, slender or bushy.

The front gangs can be individually adjusted from the tractor seat by handy lever control. Regardless of cultivating depth, the cultivator rises to full height for transport. The cultivator can be quickly attached or removed from the tractor, and it is hydraulically controlled. Its clean design gives excellent row visibility. A wide choice of shanks, sweeps, shovels, weeding discs and knives is available, as well as crop shields, gauge wheels and large-capacity fertilizer attachments.

Remember, convenient terms are available on all Ford tractors and implements through your Ford Tractor and Implement dealer. So stop in talk it over!

*Ford Farming*  
IS POWER FARMING

# DURASET-20W

## Prevents Fruit Drop

## Assures Uniform Top Quality



### increases lima bean yield 80% to 100%

Discovered by our research teams, DURASET\*-20W, a new flower and fruit-setting hormone, was cooperatively developed with many state and federal experiment stations.

1. Increases yield—insures first pick
2. Gives more uniform bean maturity
3. Allows a continuous planting schedule
4. Insures continuous harvesting operations
5. Is easy to use

Tests on tomatoes, strawberries, peppers, apples and small seeded legumes show promising results with Duraset.

**Order DURASET-20W from your local supplier today.**  
**Write, wire or phone us if unable to locate source of supply.**

\*U. S. Patent No. 2,556,665



**United States Rubber**  
**Naugatuck Chemical Division**  
Naugatuck, Connecticut

producers of seed protectants, fungicides, miticides, insecticides, growth retardants, herbicides: Spergon, Phygon, Aramite, Synklor, MH, Alanap, Duraset.



J. F. Rosborough (right), stops by to talk sweetpotato markets with grower Claud Willis.

### TEXAS YAMS

*(Continued from page 28)*

washer, and waxer to prepare the potatoes for shipment."

One of the members, J. W. Underwood, who had been in the potato shipping business before, was placed in charge of the shed. In addition to the 30,000 crates of No. 1 potatoes marketed, an equal amount of No. 2's was sold to Texas retail stores and canneries. The association also markets for nonmembers.

Members realized more from their crops than they would have by hauling to other packers, Harmon says. Meanwhile, their brand name, "Golden Yams," has become established.

Some growers have become large enough to build up their own marketing outlets. Claud Willis, of Rains County, has been in the business since 1919, and ships all over the country.

"We like big acre yields, but we're more interested in good-quality yams," says Willis. He grows some 18,000 crates of sweetpotatoes on 45 acres, and also stores and ships for 20 other growers. He handles 32,000 crates through his recently completed packing house.

### Install Irrigation

Yields of 500 crates per acre are common in the area. The soil that turns out the best quality is a coarse sand to which plenty of fertilizer has been added. This, according to J. F. Rosborough, marketing specialist for the Texas Extension Service, is what produces well-shaped potatoes.

It takes uniform moisture to make big tonnage, he adds, and this type of soil holds the moisture best. Heavier soils have a tendency to crack and dry out during the critical summer growing period. Some growers have installed irrigation systems to give their potatoes the boost needed during dry periods.

THE END.

Roadside market plans, including working drawings, are available from AMERICAN VEGETABLE GROWER, Willoughby, Ohio, for \$1.50.

AMERICAN VEGETABLE GROWER



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page 28)

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ABLE GROWER



# Tailor-Made for Vegetables!

## *New* Agricultural Grade **Grace Crystal Urea** Fertilizer Compound

### **low biuret** (Less than 0.2%)

### **and completely water soluble!**

1. **Safe! Especially Formulated for Foliar Application.**
2. **Makes Possible Maximum Yields and Top Quality.**
3. **Saves Time, Labor, Equipment.**

The low biuret content of new Grace Crystal Urea gives you concentrated nitrogen (46%) that's *completely safe* for foliar application.

The nitrogen in Grace Crystal Urea is *immediately* available to plants, and the nitrogen goes to work almost at once. Supplying this *extra* nitrogen in this easy way gives you maximum yields *and* top quality.

Response in terms of improved foliage, color or growth may be seen within a few days after spraying. Even when

soil conditions are poor—for example, when there is excessive dryness, wetness, cold, or leaching from heavy rains—response from foliar feeding with Grace Crystal Urea is good—and fast.

Grace Crystal Urea can be added to your regular insecticides or fungicide formulations and sprayed at the same time you apply these materials. You do two jobs at once, which frees men and equipment for other work.

Grace Crystal Urea is compatible with commonly used spray materials. The crystals dissolve readily and completely, won't clog spray hoses, valves or nozzles. Solutions of Grace Crystal Urea are non-corrosive—won't harm rubber, metal or wood.

**FOR SOIL APPLICATION** use free-flowing Grace Urea Prills. Guaranteed 45% Nitrogen. Ideal for Top-Dressing or Side-Dressing of fruits and vegetables, as well as field crops.

# Grace Chemical Company

A Division of W. R. Grace & Co.

MEMPHIS, TENNESSEE





*Lilly*

## Progress Report

After six days of gibberellic acid treatment in Lilly labs, the peas at left outgrow untreated plants at right by four inches.

# Subject: GIBBERELLIC ACID

For the past few years, Lilly has studied the effect of gibberellic acid on plants and seeds. Some of the work now underway is shown on these pages. The results are promising and the work has been intensified.

Our research shows that this remarkable compound can increase growth, speed germination, induce flowering, break dormancy and cause certain other beneficial actions. Our development teams are compiling important data concerning the nature of gibberellic acid and its characteristics in product formulation and use.

Since September of 1956, we have been able to supply research samples to more than 300 other scientific groups. As one of the major basic manufacturers of fermentation

products, we expect to produce an adequate and dependable supply to meet the growing demand for gibberellic acid products. It is our intention to make these products available as rapidly as necessary research and development will allow.



ELI LILLY AND COMPANY, INDIANAPOLIS 6, INDIANA

AMERICAN VEGETABLE GROWER

## AGRICULTURAL RESEARCH CENTER

ELI LILLY and COMPANY

EXPERIMENTAL  
FIELD PLOTS

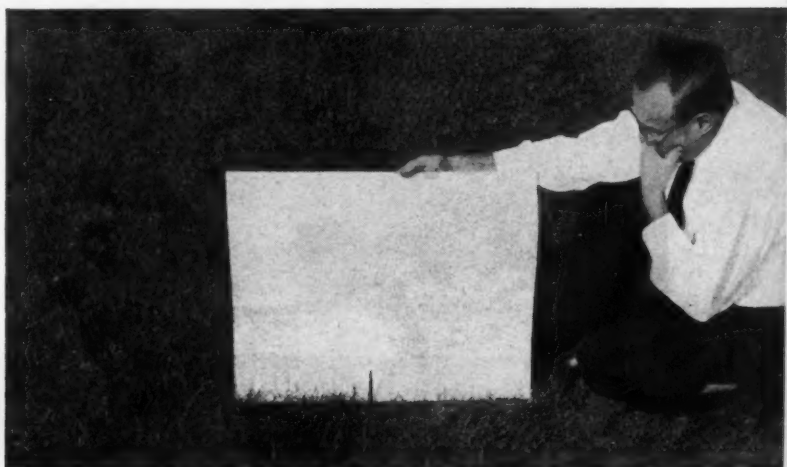
Field plots at the Lilly Agricultural Research Center have been the site of extensive gibberellic acid studies. Here the material is being tested under field conditions with careful measurement of results throughout the growing season.



Flowers and ornamentals are treated in Lilly test plots to gauge the effect of the gibberellic acid compound on flowering, stem length, color, etc. Minute quantities have been found effective and can be applied by several different methods.



A Lilly scientist checks growth and production of field and vegetable plants in the test plots which have been sprayed with gibberellic acid. Results indicate possible use in numerous crops and also in the growing and treatment of many seeds.



Turf plots at Lilly indicate that gibberellic acid causes grasses to grow faster and longer. Even in mid-November the treated plot at the left, after one spraying, had a greener appearance than the untreated grass at the right.



Lilly development teams test gibberellic acid to determine its characteristics in combination with other materials and under a variety of heat, light and moisture conditions. A number of forms of the material are studied for different needs.



Gibberellic acid is the product of a fermentation process which has long been used at Lilly's. As a major basic producer of fermentation products, Lilly has assigned a part of these large-scale facilities to gibberellic acid production.

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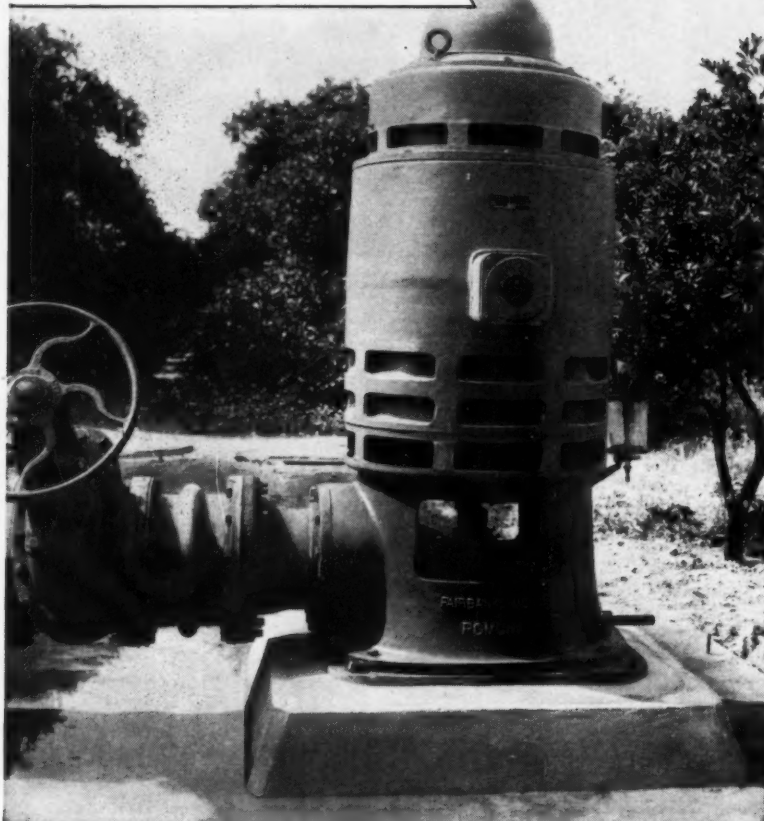
AGRICULTURAL & INDUSTRIAL PRODUCTS DIVISION

APRIL, 1957

33

Where performance is the measure

F-M Pumps are the standard



## How much per acre to irrigate?

Whether you plan to pump from a well, ditch, stream or river, you're naturally concerned with *how much it will cost per acre to irrigate.*

Not only will your Fairbanks-Morse or F-M Pomona pump dealer give you the most dependable answer—he'll also give you an unprejudiced recommendation for the pump best suited for your job. He'll do so because: (1) he has the broadest experience in irrigation pumping, and (2) he has every type and size pump for modern irrigation, built by the world's largest manufacturer of a complete pump line.

With the right pump on the job, you'll save on power, on repairs and maintenance, on lubrication and attendance—which means lowest costs per acre to irrigate. See your nearby Fairbanks-Morse or F-M Pomona pump dealer. Fairbanks, Morse & Co., Dept. AV-4, 600 S. Michigan Ave., Chicago 5, Ill.



# FAIRBANKS-MORSE

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RAIL CARS • HOME WATER SERVICE EQUIPMENT • MOWERS • MAGNETOS



Before you start planting seed potatoes, make sure your planter is properly adjusted.

## Potato Planting POINTERS

Here are four rules to follow to insure a full stand and yield

By GEORGE W. TALLMAN

Pennsylvania Co-operative Potato Growers, Inc.

**S**UCCESSFULLY producing a potato crop, just like the successful manufacturing of a factory-made machined steel product, requires that the man who does the work must follow simple but particular and definite rules.

### RULE 1—Your Soil Must Be Correct

Your soil must be just as correct for potato growing as factory facilities are correct for production of a particular manufactured product.

With modern soil testing laboratories at your service, you no longer need to guess at what elements you must add to provide the pounds per acre of nitrogen, phosphorus, or potash or magnesium or other minor elements that are necessary in growing a given tonnage of potatoes. You can know your pH, but you must use the test and stop guessing. Then you must apply the right amount of chemical plant food to balance the diet of good requirements for your potato crop.

### RULE 2—Prepare a Perfect Rootbed

Potatoes want a loose, well aerated, humus-filled, well drained soil. To germinate quickly, to sprout and grow a strong and stocky plant, and to form a heavy set of tubers that will lie deep and be free from sun burn or field frost at harvest-time, potato plants must have a good rootbed. Obtain it by plowing your sod or a cover crop *into* the soil. Don't just "plow it down"—mix the soil and organic material. Use enough power to plow deep, and disk or deeply till the soil with a tooth culti-

AMERICAN VEGETABLE GROWER





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# Planting ERS

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vator only enough to get a workable texture for planting. The less you drive over the field, the less compaction will occur and the better will be the condition of your rootbed.

## RULE 3—Use Good Seed

This is a simple rule that is violated much too often. Seed certified by any state with a good seed program is good, but the best certified seed is that from sources you know to be right. Best plan is to know the seed producer. He can guarantee the pedigree of his seed by field inspections, preseason testing, and proper seed handling.

Seed must be handled with cleanliness at all points. It is folly to have good clean seed potatoes and then have them infected with disease through filthy bags or crates, or through a dirty storage, truck, or planter.

Seed potatoes must be stored with intelligent care. Chilled potatoes germinate poorly. Badly sprouted or shriveled seed will never produce full yields. Plant a firm, but "warm" seed piece.

## RULE 4—Set Your Planter Accurately

Potatoes and fertilizer must be placed in correct relation to each other in the soil; the seed piece must never come in direct contact with the fertilizer. This can be insured only by having opening disks that are straight and of the right size, fertilizer tubes and seed placement tubes that are not bent or worn out, a planting shoe that is adjusted deep



Correct placement of seed piece and fertilizer. They must not come in direct contact.

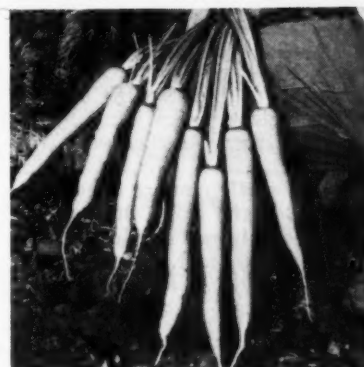
enough, and covering disks that are set so as not to disturb the placement of seed piece and fertilizer.

A cardinal rule that you must exercise in adjusting your planter is: Use care to insure accuracy. For example, if your planter has eight picker arms to the row, and one is bent or its spring broken so that it misses one seed piece in every eight, you are guaranteeing at least a 12½% reduction in stand and yield. You are spending 100% of the labor bill, 100% of fertilizer, 100% of land rental, depreciation on equipment, fuel and power, but you are guaranteeing that your crop will be cut 12½% by this error. THE END.

APRIL, 1957

# NITROGEN

## that pays on all your crops



Every bag of UREA 45 is a labor-saver and a profit-maker—whatever crop you use it on. ARCADIAN® UREA 45 is 45% nitrogen, all high-quality Urea nitrogen, quick-acting, leach-resistant and long-lasting. You get 36 pounds of nitrogen in every 80-pound bag. You save work any way you spread it—by hand, by machine, or dissolved in irrigation water. Feed all your crops the nitrogen they need the fast, easy way—to get genuine ARCADIAN UREA 45 today!

## NITROGEN DIVISION

Allied Chemical & Dye Corporation

New York 6, N.Y. • Hopewell, Va.  
Ironton, Ohio • Omaha 7, Neb. • Columbia, Mo.  
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# GROW WITH

## Arcadian

# UREA 45

the free-flowing,  
concentrated nitrogen



## Proven Taste Repellent

AGAINST

Deer, Rabbits  
& Rodents  
—Also Crows

If you have a real deer, rabbit, rodent or crow problem, why not follow the example of other modern growers by treating your planting and trees or seed with effective

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to repel deer, rabbits, rodents and crows? Use coupon to get all the facts.

**LP** Larvacide Products, Inc.  
Ringwood, Illinois  
1515 3rd Street, SAN FRANCISCO 7, CAL.

Please send complete information and name of local dealer.

Name .....

Address .....

City ..... Zone ..... State ..... AVG 487

## MULCHING Greenhouse Crops

**Crop residues promote growth but chemical fertilizer is needed too**

By I. C. HOFFMAN

Ohio Agricultural Experiment Station

**M**ULCHING tomato, cucumber, and other tall, long season crops has been practiced for many years.

Wheat straw was one of the first materials to be used. At one time cheap and readily available, it has become scarcer and more expensive. Clover chaff, low-grade clover and alfalfa hays, strawy manures, peanut hulls, corn cobs, and others have been used.

Wheat straw decomposes rapidly in the presence of soil organisms, moisture, and nitrates. When the nitrates in the soil are low, they are rapidly tied up by the organisms decaying the straw and the plants become nitrogen deficient. The plants turn light yellowish color and become hard and stunted. Yields are also reduced if the situation is serious enough. Corn cobs, ground or whole, tend to produce similar effects to straw, but become much worse.

The clovers, alfalfa, soybean hulls, and peanut hulls are legumes and have enough nitrogen within themselves to rot them. Hence, their decomposition does not draw much upon the soil supply. Tomato plants growing in plots in the station greenhouses mulched with them became tall, dark green, vigorous, and fruitful.

Straw cattle manure affected the plants similarly and they yielded about as much fruit as when legumes were used. In fact, average differences in yields in this group were probably not significant.

### Mulched Vs. Unmulched

The experiment lasted more than five years, and the mulched plots were compared with similar plots which received no organic matter at all. These check plots yielded the least fruit in the series. (The corn cob mulched plot was not a part of this series.)

The soil in the check plots did not receive any chemical fertilizer for most of the time. Neither did the soils in the plots receiving the mulches. Yet, the yields from the mulched plots were consistently higher than the average for the check plots. The yields of the straw



Tomatoes mulched with ground corn cobs, a poor mulch material, are stunted, yields are low.



Tomatoes mulched with peanut hulls. Plants show vigorous growth and fruitful condition.

mulched plot were about 10% above the checks while the others yielded more than 10% above the checks.

Toward the end of the experiment chemical analyses of foliage from plants in each plot showed the plants were deficient in nitrogen, phosphorus, potassium, and certain other elements.

The quality of the fruits produced was quite satisfactory at the start of the experiment, but as cropping went on it tended to lower gradually until near the end of the experiment, and especially near the end of each crop the quality of the tomatoes was badly affected.

These observations lead to the conclusion that in spite of the good effects of these mulching materials on the growth of greenhouse tomatoes for a long time, they do not always supply enough nutrients to the soil to support the growth of the crop in all respects without the addition of chemical fertilizers to the soil in adequate amounts. **THE END.**

AMERICAN VEGETABLE GROWER

## CONTROL

# Fungus Diseases



## TRI-BASIC COPPER SULFATE

A chemically stable copper fungicide containing not less than 53% metallic copper . . . For spraying or dusting truck and citrus crops. Especially effective in controlling persistent fungus diseases. Prevent fungus diseases through application of Tri-Basic Copper Sulfate before fungus attacks.

## CORRECT

# Nutritional Deficiencies

## NU-IRON

(Nutritional Iron)

A neutral Iron compound containing 30% Iron as metallic. Chelated Iron 10% as metallic — applied to foliage of plants for correction of Iron deficiencies.

## NU-Z

(Nutritional Zinc)

Nu-Z contains 52% metallic zinc . . . Can be applied directly to the plant in spray or dust form . . . Stimulates plant growth and corrects zinc deficiencies.



## COP-O-ZINK

(A Neutral Copper-Zinc Fungicide)

For disease control and prevention. Particularly effective on potatoes, also on many vegetable crops. Cop-O-Zink is excellent for correcting Copper and Zinc deficiencies and for stimulating plant growth. Contains 48% Copper and 4% Zinc. Can be applied directly to the plant in spray or dust form.

## NU-MANESE

(Manganous Oxide)

An extremely effective nutritional manganese product for correcting manganese deficiencies due to low manganese content of the soil . . . Applied in spray or dust form.

## NU-M

(Nutritional Manganese)

A nutritional manganese compound to be fed to the plants through direct application in spray or dust form . . . To correct manganese deficiencies and to stimulate healthier plant growth.

## ES-MIN-EL

and CUSTOM MIXED MINERAL MIXTURES

The essential mineral elements . . . Contains Manganese, Copper, Iron, Zinc, Boron and Magnesium, all essential to healthy, productive soil. Fruits and vegetables rich in vitamins cannot grow in soil poor in minerals. For soil application. ES-MIN-EL in spray or dust form for direct application to the plants is also available . . . Contains nutritional Manganese, Zinc and Copper.

WE WILL CUSTOM MIX MINERAL MIXTURES TO YOUR OWN SPECIFICATIONS IN LARGE OR SMALL QUANTITIES.



TENNESSEE CORPORATION

## DUST MIXTURES

Tennessee's Nu-Z, Nu-Iron, Nu-M and Tri-Basic Copper Sulfate are especially suited for use in preparing nutritional and fungicidal spray and dust mixtures.

There's a superior TC product to correct most nutritional deficiencies and TRI-BASIC COPPER SULFATE to prevent and control certain persistent fungus diseases.

For Information on These Nutritional Products, Write, Wire or Phone Us.



TENNESSEE



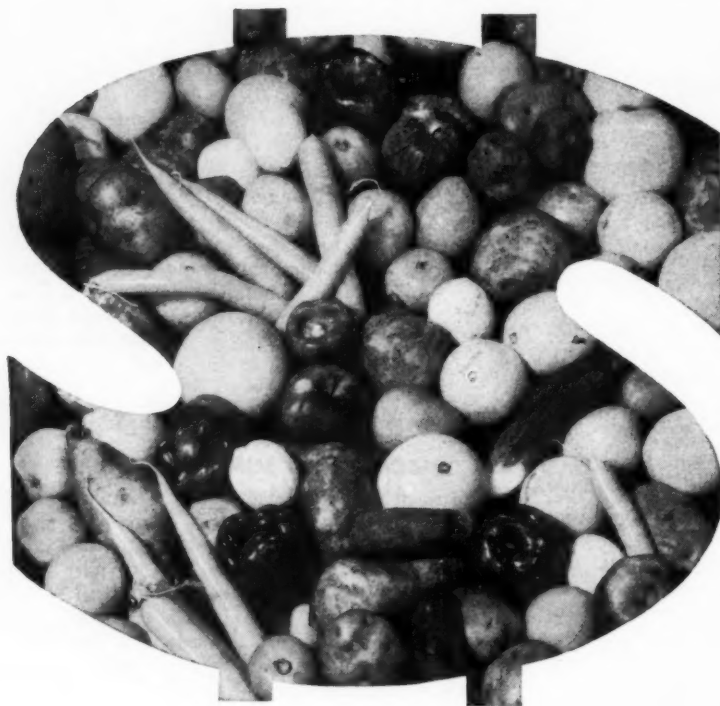
CORPORATION

617-29 Grant Building, Atlanta, Georgia



# SALES UP

with JOHNSON'S WAX  
for fruits and vegetables!



Fresh vegetables given a "beauty treatment" with Johnson's Wax have maximum eye-appeal. The better they look, the better they sell. Once waxed, many vegetables sell in greater volume and command top prices.

That thin, glossy coat of Johnson's Wax preserves peak freshness and quality. It also greatly reduces losses from shrinkage and spoilage. Any way you look at Johnson's Wax, it is a definite selling aid in the vegetable business.

Shoppers demonstrate their preference for waxed vegetables by moving them out of the stores quickly . . . even at premium prices. And that, of course, means better business all along the line . . . for jobbers, shippers, packers and producers.

Inexpensive and easy to apply, Johnson's Wax can boost the sales of many vegetables. For full information, contact your local Johnson distributor or write: S. C. Johnson & Son, Inc., Agricultural Waxes, Dept. AVG-47, Racine, Wisconsin.

A product of Johnson's Wax Research



## LOW-COST GREENHOUSES

Here are three types of plastic and Fiberglass greenhouses

Photos by Eldon S. Banta



Quonset-type plastic greenhouse (left) and Alsynite house used by Herman Bohne and son, Middletown, Ohio, for plant propagation. Alsynite is made of light green translucent Fiberglass by Alsynite Co. of America, San Diego 9, Calif.



Middle section of plastic house is rolled up on warm days for ventilation. House can be moved to new location each year if necessary.



As Alsynite house permits more light under benches than their glass houses do, Bohnes can grow more plants per area. House is bolted together with nonrusting cadmium-plated bolts, and joints and bolt holes are sealed with Alsynite mastic. Aluminum angle is used for framework. House is 60 x 22 feet, 10 feet high.



Two plastic greenhouses of Mr. and Mrs. H. L. Levy, Brownsville, Tenn., proved so profitable that they've added two more, each 100 x 14 feet.



Tomatoes growing in Levy greenhouse on March 26, 1956. Largest fruits were 1 1/2 inches in diameter; harvest was expected about May 1. Ground was fertilized, rototilled, and plants set with starter solution, 700 plants per house.

AMERICAN VEGETABLE GROWER

# MOST HOUSES

Types of plastic  
greenhouses

by Eldon S. Banta



house (left) and  
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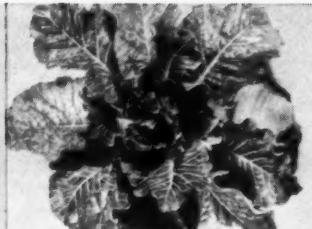
ABLE GROWER



## IT'S TOO LATE FOR TOP PROFITS



Yellow areas between dark green veins, starting with lower, older leaves, are magnesium-deficiency signs in this tomato plant.



This magnesium-deficient cabbage plant probably will not produce a marketable head, because it's too late. "YLT" has gone too far.



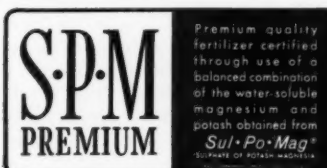
It's too late for profits—for this cauliflower plant, with its curling, blotchy, mottled and discolored leaves.



Magnesium-starved bean leaves show characteristic yellowing, mottling and browning of older, lower leaves.

"YLT" (YELLOW LEAF TROUBLE) means reduced vegetable yields. When you see yellowing between the veins of the older leaves of your vegetable plants, it's a sign of magnesium deficiency. But—when such an obvious symptom appears, it's too late for top profits.

Most vegetable soils lack enough magnesium, the element so basic in the growing of healthy, early-maturing vegetables. That's why more and more successful growers apply recommended amounts of premium-type complete vegetable fertilizer containing SPM (Sul-Po-Mag®). Sul-Po-Mag is fast-acting, readily available, and water-soluble. It's the most effective source of available magnesium—and sulphate of potash—for your vegetables. Most fertilizer manufacturers make grades containing "SPM." See your fertilizer dealer.



Look for this identifying Seal of Approval when you buy. It's your assurance of extra-value fertilizer.

SPM Premium-type fertilizers guarantee



Water-Soluble Double Sulphate of Potash-Magnesia  
(K<sub>2</sub>SO<sub>4</sub> • 2MgSO<sub>4</sub>) 22% K<sub>2</sub>O—18% MgO

potash division

INTERNATIONAL MINERALS & CHEMICAL CORPORATION  
20 NORTH WACKER DRIVE • CHICAGO, ILLINOIS

APRIL, 1957

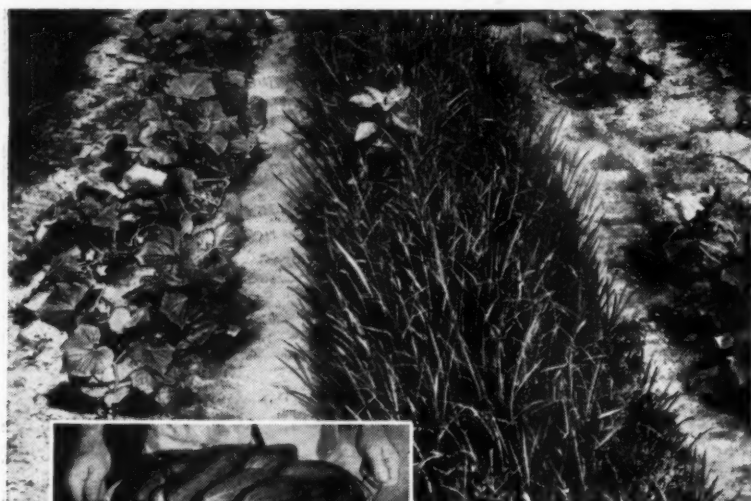
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# PICKLE GROWERS!

save up to \$**150** per acre

with

# ALANAP



Weed-free rows shown at left were treated at seeding with Alanap. Note adjacent weed-choked area.

## PRACTICALLY ELIMINATES HAND WEEDING

Extensive field usage proves that Naugatuck's new herbicide, Alanap®, can save growers of cucumbers, melons and cantaloupes countless dollars by practically eliminating hand weeding.

One comparison reveals that *cucurbit yields were actually doubled by a pre-emergence application of Alanap*. "Plants in untreated rows were severely stunted by weed competition before the fields could be cultivated and hoed, whereas treated rows were still not suffering ... two months after planting."

As a pre- or post-emergence weed killer, Alanap gives excellent control of a wide variety of weeds, is non-hazardous to humans and animals, easy to apply, low in cost, and safe on recommended crops including asparagus.

Order Alanap from your local supplier today. Write, wire or phone us if unable to locate immediate source of supply.



## United States Rubber

### Naugatuck Chemical Division

Naugatuck, Connecticut

producers of seed protectants, fungicides, miticides, insecticides, growth retardants, herbicides: Spergon, Phygon, Aramite, Synklor, MH, Alanap, Duraset.

## BURPEE APPOINTS MIDWEST SALES MANAGER

THE appointment of Adolph R. Junginger as sales manager of the company's midwestern headquarters at Clinton, Iowa, has been announced by David Burpee, president, W. Atlee Burpee Co., Philadelphia. His appointment fills the vacancy left by the passing of Laurence Coy, September 1, 1956.



Junginger

Mr. Junginger, who assumed his new duties January 15, has been with the Burpee Co. the past six years as manager of dealer sales.

## LONGER LIFE FOR VEGETABLES

DIPPING perishable vegetables in antibiotic solutions can substantially reduce bacterial spoilage, reports George Koch, development biochemist with Chas. Pfizer & Company, Inc.

In extensive tests, the broad-range antibiotic, Terramycin, was used to treat peas, broccoli, lima beans, cauliflower, and spinach. The vegetables were stored at 85° F. with humidity between 70 and 85%. The antibiotic slowed the rate of decay in all the treated vegetables, Koch states.

According to the USDA, spoilage of perishable vegetables from all causes costs approximately \$206 million a year.

## MAKE IT EASY FOR THE BEE

CUTTING down a honeybee's flying time can boost yields for cantaloupe growers, says Edgar A. Taylor, of the USDA.

In a Salt River Valley, Arizona, comparison of 37 commercial fields, honeybees were active in all fields during blossomtime. However, in 17 fields that did not have these necessary little pollinators stationed nearby, the production average of melons per acre was 161 crates, or an average of 0.67 cantaloupe per plant; while in the 20 fields where hives were within a mile—in some cases bordering the fields—the production average per acre was 242 crates with a plant average of 1.06 melons. Or a yield increase averaging 81 crates of melons per acre!

AMERICAN VEGETABLE GROWER



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SALES  
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Junginger

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## LIFE TABLES

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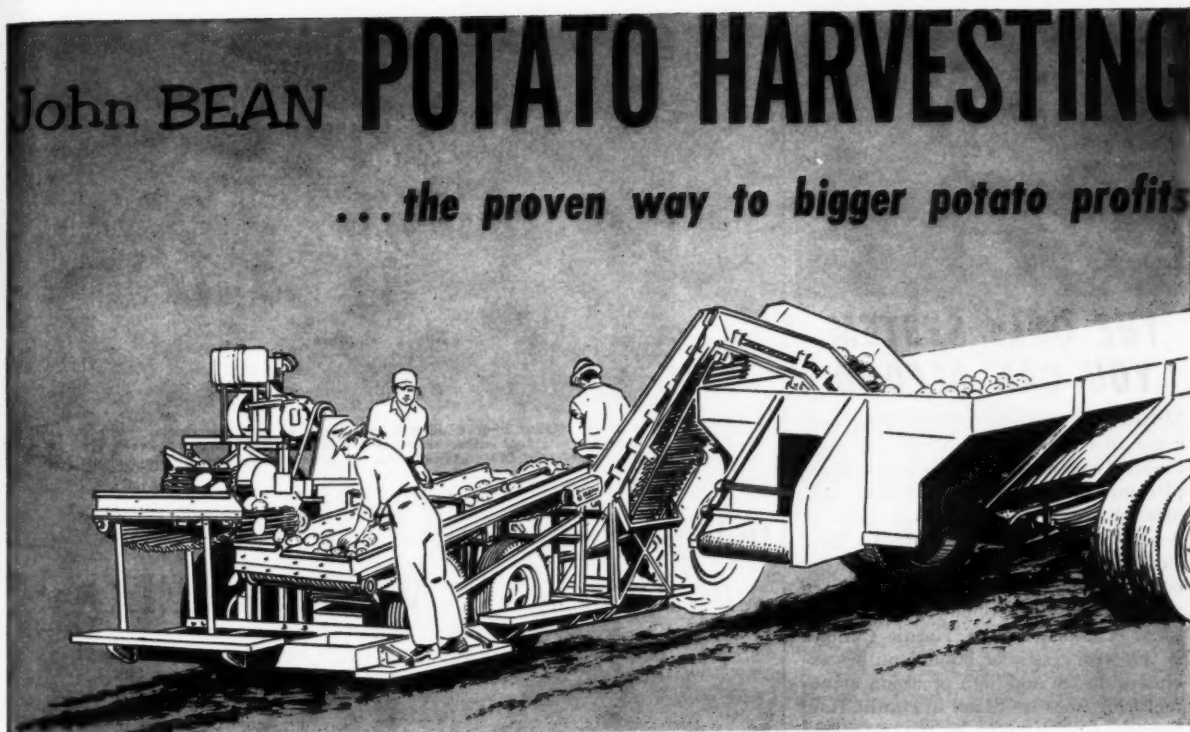
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TABLE GROWER



## REDUCE YOUR LABOR COSTS 50%—OR MORE!

Growers using John Bean Potato Harvesters have cut their labor costs in half — and see potential cost reductions of up to 75%. They're comparing their previous methods of hand digging, picking and loading with John Bean mechanical indirect harvesting and bulk loading. With the somewhat

slower method of direct harvesting, labor costs are still reduced appreciably.

Profitable operation with John Bean Harvesters is not limited to the large growers — it's been proven that farms with 30 acres or more, or neighbors combining acreage, can profit substantially.

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No longer need growers be concerned with the difficulties of obtaining, supervising and housing large crews. John Bean Harvesters have replaced 30 to 40 pickers and allowed growers to use only their regular force. The faster, easier operation helps keep good men, too. John Bean Harvesters

have independent power units that do not rely upon tractor PTO, so that apron speeds can be regulated easily to ground speeds for better teamwork and maximum output. Digger and bulkloader are hydraulically controlled.

## PRODUCE A BETTER, CLEANER, MORE MARKETABLE CROP

John Bean Harvesters give you the most complete separation of potatoes from stones and clods of any equipment on the market. Many growers say they get far less damage from cuts and

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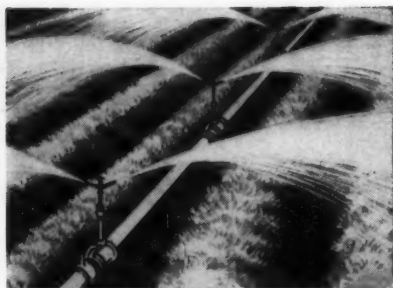
**WATCH NEXT MONTH  
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JOHN BEAN MODEL 30  
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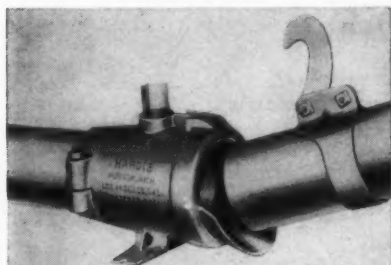
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Photo shows higher degree of wilt resistance of one watermelon variety over another in a field rather heavily infested with wilt. Purdue Hawkesbury at left, Charleston Gray at right. Latter produced no marketable melons.

## Indiana Reports on Wilt Resistance of WATERMELONS

Tests prove that the new "wilt resistant" varieties may not be resistant in all melon growing areas

By E. C. STEVENSON

Purdue University

**FUSARIUM** wilt is the most destructive disease of watermelons in southern Indiana, where 8000 to 10,000 acres of this crop are under production annually. The organism causing the disease persists in the soil indefinitely.

The potential area of production is somewhat limited, thereby making it impossible for growers to move onto new land to avoid wilt, as has been done in the southeastern states for many years. Most of the area is now contaminated with the wilt organism, and since soil treatment and other disease control measures of this type are not practical, the use of resistant varieties remains as the only feasible means of combating this disease.

Part of the watermelon breeding program of the Indiana Agricultural Experiment Station each year consists of a disease trial ground where introductions of new varieties and potential varieties from all over the United States are tested. The area being used is severely and uniformly infested with the wilt organism.

### Wilt Shows Up in Field

Fusarium wilt takes its toll in Indiana in several different ways. The losses from the seedling phase of the disease are small because the majority of the growers start their plants in plant bands in hot beds. The bands are filled with tamped, well-rotted manure. The beds are fumigated and the seeds are then planted in the bands. Because of this procedure, the plants rarely are exposed to the wilt

fungus until they are transplanted to the field.

Wilt symptoms usually begin to appear in the field shortly after the plants are set out. Very susceptible varieties die before making any more appreciable growth in the field; other varieties will vine out a few feet and then wilt and die; still others will live until the melons are half or three-quarters developed before they wilt and die; while some plants will live all season but remain stunted and unproductive. Only varieties carrying a high degree of resistance will produce a crop on severely infested fields.

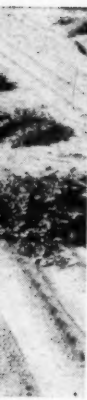
### Susceptible Varieties

One very important finding as a result of these annual wilt tests has been that varieties listed as being wilt resistant in another area of the United States might or might not be resistant in southern Indiana. Ironsides, a variety released several years ago, was wilt resistant in Florida and other southeastern states, but it was practically a total loss in Indiana. Fairfax reacted similarly although it carries a somewhat higher degree of resistance than Ironsides.

Charleston Gray is a very desirable type of melon for southern Indiana due to its excellent quality and shipping characteristics. Growers, however, must use extreme caution with Charleston Gray or they can get into serious trouble.

On severely infested fields, Charleston Gray will be killed almost 100%; on moderately infested fields, survival is often rather good but the variety will be stunted and unproductive. A

AMERICAN VEGETABLE GROWER



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VEGETABLE GROWER

mortality of 25% or more is not uncommon on moderately infested fields. Where wilt is "light," Charleston Gray will produce an excellent crop of melons with no wilt symptoms.

Attempts are being made through the Indiana breeding program to intensify the wilt resistance in this otherwise very fine variety. It should be emphasized that many varieties reported to be resistant in other parts of the country maintain their resistance in Indiana.

No research has been done to explain the variation in reaction of wilt resistant varieties from one locality to another, although it is very probable that one or two or a combination of conditions exist to bring this about.

It is extremely probable that one important factor lies in the wilt organism itself, in that there very likely is more than one strain of the organism and varieties tested against a particular strain will not stand up against another strain.

A partial listing of the varieties tested in Indiana with their wilt reactions follows:

**High Wilt Resistance:** Arkansas 55-11, Blacklee, Calhoun Sweet, Chris Cross, DeLisle Special, Dixie Queen (Hybrid), Garrison (W.R.), Klondike R-7, Louisiana No. 1, Miles, Purdue Hawkesbury, and Whitehope.

**Medium Wilt Resistance:** Blackstone, Charleston Gray, Congo (W.R.), Fairfax, Baby Klondike, Dixie Queen (W.R.), and many of the triploids (seedless).

**Low or No Resistance:** Black Diamond, Black Kleckley, Blue Ribbon Klondike, Congo, Dude Creek, Scarlet Klondike, Takii Gem, Ironsides, Kleckley's No. 6, Leesburg, New Hampshire Midget, Rhode Island Red, Stone Mountain (W.R.), Sugar Baby, and some of the triploids (seedless). **THE END.**



### CROP BOOSTER

Louis Promos, Leesburg, Va., producer of Ambrosia melons, sprayed a water solution of sodium molybdate—1 ounce to the gallon—around his melon hills and vines. This picture shows the results: Left—melon treated with molybdenum; right—untreated melon. Promos reports that moly also improves melon quality, size, color, and taste and increases the number of runners in addition to speeding up growth.

APRIL, 1957



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**A BRAND NEW  
FEATHERWEIGHT  
PORTABLE  
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Hardie Powerpak will dust 2 to 3 acres per hour. Applies 5 to 100 pounds of dust with metered accuracy. Practically eliminates costly soil compaction. Weighs only 30 lbs. One man carries it and efficiently applies the dust as fast as he can walk. Handy controls. Anybody can operate it. Tested in all crops for more than 5 years. Hundreds in use, many growers use several. One unit replaces *three* of the old fashioned conventional hand dusters. One man does the work of *three*!

**There is no service problem . . .**

with the Hardie Powerpak. It is simple in design, strongly built of finest materials. Fan housing and hopper are made of Fiberglas. A two-cycle air cooled engine, airoter blower, efficient agitator and oil filter are standard equipment. A small quantity of oil added to the gasoline is the only lubrication needed. There are no clutches, belts nor chains. It delivers a perfect mixture of air and dust of ample volume and velocity.

The one-row Hardie Powerpak is designed especially for low growing

crops and small trees. It will dust a swath 6 to 8 feet wide at each trip in plantings of melons, cucumbers, strawberries, parsley, broccoli, etc. It will dust fruit trees up to 30 feet high. The two-row Hardie Powerpak is the most economical and efficient equipment for dusting grapes, bush type and staked crops. It is also universally used in tomatoes, tobacco, celery, peppers, beans and for gladioli and flowers of all kinds.

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**GREATER YIELDS  
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THE EASY, ECONOMICAL WAY  
WITH CAMPBELL'S  
**GRO-GREEN**  
LIQUID FERTILIZERS AND  
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All over the country vegetable growers report bigger profits... healthier, hardier plants with GRO-GREEN liquid fertilizers. Guaranteed to give greater results for the dollar invested than any other type application. You be the judge. GRO-GREEN can be applied with conventional sprayers or through irrigation equipment... may be mixed with insecticides and fungicides. Available in 1, 5, 30, and 55 gal. containers. Also furnished in concentrated crystal form in 1, 3, 25, and 100 lb. sizes.



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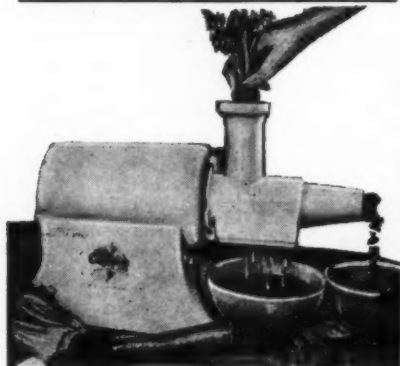
**ACTUAL YIELD INCREASES WITH GRO-GREEN**

Beans.....3-10 bu. Potatoes...30-100 bbls.  
Tomatoes.....2-5 tons Peas.....1-2½ tons

Above are records of actual increases in yields per acre on hundreds of farms all over the country. Comparable results reported on other vegetables.

**WRITE FOR PRICE LIST AND FREE  
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**THE NEW CHAMPION JUICER**

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Price completely equipped with ¼ H.P. G.E. special built motor, 60 cycle 115 V; 5 year service guarantee; instruction book with recipes including the three in one feature for only \$180. F.O.B. factory.

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639 E. Lockeford St., Lodi, Calif.



Giant, self-propelled conveyor belt rolls through Williams asparagus beds during harvest, followed by platoon of cutters. Field box of freshly-cut asparagus (left) shows the quality the Williams brothers work for—smooth, firm plants and tight tips. White butts are cut off during packing to produce the all-green pack which buyers like.

## Growing Asparagus

### in California's Central Valley

**When asparagus can grow 16 inches a day,  
weeds are the big production problem**

By **RAYMOND COPPOCK**

**S**URROUNDED by some of the finest fruit-growing acreage in California's fertile Central Valley, several thousand acres of asparagus are being successfully grown under conditions far different from the traditional asparagus land on the Sacramento River Delta.

Located in eastern Tulare County, the area—which proudly specializes in

all-green asparagus, from tip to butt—was pioneered and still is led in asparagus production by Williams and Sons, of Porterville. The ranch is now operated by the sons of the late H. S. Williams, Raymond L. and Fred D. Williams.

They started raising asparagus in 1925 on 2½ acres, and the first crops were peddled locally from a Model T truck. Today the brothers farm about 1100 acres of asparagus—plus an



Every row of asparagus is cut every day during harvest season, so pickers often have to wade through irrigation water. For this reason asparagus fields are on the lighter soils of the Williams ranch. Mules which can plod through water and mud pulling small carts are used when fields are wet instead of conveyor in upper photo. When weather is ideal, the Williams brothers have measured 16 inches of growth a day, even as much as an inch an hour.

**AMERICAN VEGETABLE GROWER**

even larger acreage of fruit, nut, and row crops—and own their own market outlet in Los Angeles from which they ship throughout the nation.

#### Weeds Are Big Problem

Weeds are a continual problem on the loam-clay soils; a planting of asparagus produces for up to 15 years, and the Williams firm has had to work out a method of controlling weeds in the rows of tiny shoots.

Production is high; even with rows 7 feet apart, wide enough for a tractor and cultivator, the brothers get yields of 4½ tons per acre.

"We're proud of the quality, too," says Raymond Williams. "That means all-green shoots with tight tips. We pack three lengths, 7, 8, and 9 inches. All the longer lengths and much of the 7-inch pack are completely green. We think we have superior flavor, too. In my opinion, that's the result of fertilization."

Here's how the Williams brothers handle various aspects of their operation:

**Weed Control**—Regular cultivation helps, but the blades cut only between the rows. When wild growth gets out of hand, the entire bed is renovated by completely tearing up the top 2 inches of soil over the bed itself.

"That gets the weeds, and with irrigation the field is in production again in three days," says Williams. Hand weeding has been a big and expensive part of the operation in the past. Recently they have had some success with chemical control, which may largely solve the problem.

**Fertilization**—As a long-range program, 10 tons of dairy or feedlot manure is applied per acre each year. But that's mainly as a soil conditioner; the boost needed for fast growth comes mainly from 100 to 110 pounds of nitrogen per acre in the form of calcium cyanamide. This doubles as a weed killer and is applied, of course, in the spring. Phosphate and potash fertilizers are avoided since they encourage the plants to mature and "feather out," when the need is for lush growth of the immature shoots.

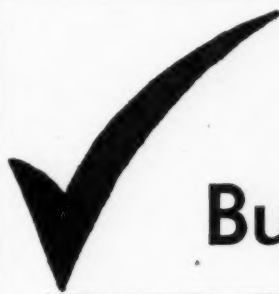
**Irrigation**—Early irrigations are timed according to spring rains. But in the hot weather, water is applied regularly every 10 days and the harvest crews wade right through it.

**Harvesting**—The Williams ranch keeps a crew of 200 busy throughout the harvest season, but workers are paid by the hour, not by the work-unit.

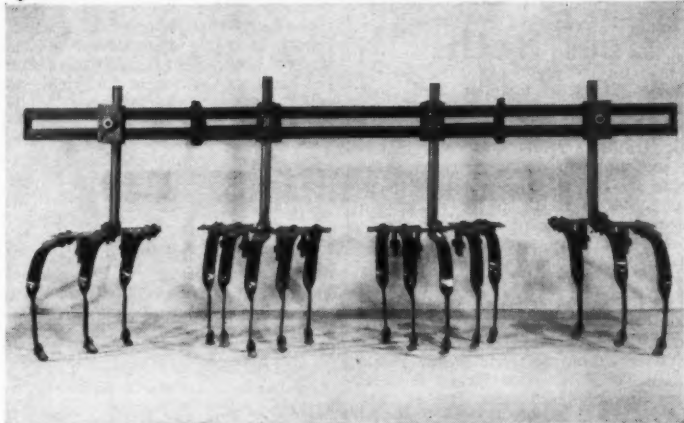
"If a man's in too much of a hurry, he can ruin two new tips coming through the ground by jabbing at one stalk," explains Williams. "We insist

(Continued on page 47)

APRIL, 1957

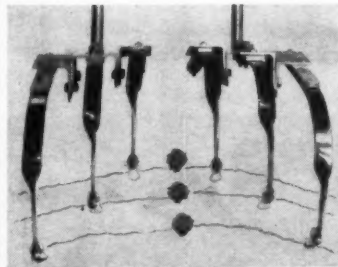


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100 ± 25¢	\$2.50 \$3.25	250 ± 25¢	\$4.50 \$5.43
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100 ± 25¢	\$3.25 \$4.25	250 ± 25¢	\$5.75 \$7.75

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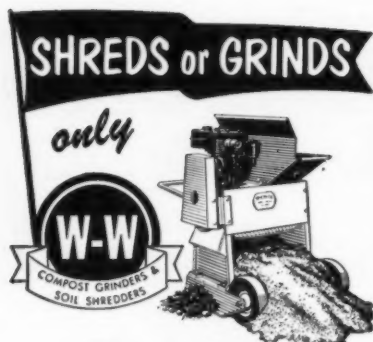
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Terms usually arranged.

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**AIROSPRAYER COMPANY**

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NEODESHA, KANSAS

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## STATE NEWS

(Continued from page 17)

proposes that sweetpotatoes may be produced within infested areas when insecticidal applications are made strictly as outlined by entomologists, except that the growing of sweetpotato plants and vines is prohibited in towns and cities known to have weevil infestation.

The Tift County Chamber of Commerce will resume its practice of sending weekly reports on the area tomato crop to buyers far and wide. The reports were scheduled to start in March, according to Bill Tucker, manager of the chamber, and will continue into the tomato-marketing season. The reports were sent to about 400 produce buyers last year. Condition of the crop, the weather, prospects for yield, and any other pertinent information is included in the reports.

A short course on irrigation for truck crop farmers from the southern part of the state was held at Abraham Baldwin Agricultural College in Tifton, March 12. "Irrigation of Truck Crops" was discussed by Otis J. Woodward, horticulturist of the Coastal Plain Experiment Station. Other discussions covered efficient and effective application of irrigation water, the care of irrigation equipment, and how to make complete use of an irrigation system.—Mrs. Pauline T. Stephens.

### Vegetable and Potato Growers Meet

OHIO—Early in February at a three-day meeting in Cincinnati, some 300 members of the Ohio Vegetable and Potato Growers Association covered practically every important phase of vegetable growing in addition to hearing grower experience talks of new and improved methods.

In discussing insect and disease control, Drs. Lyle Goleman, entomologist, and B. F. Janson, pathologist, emphasized the fact



Ohio Vegetable and Potato Growers Association officers for 1957: Front row (left to right), Jack Basquin, 1st vice-president, potato section; Leonard Bettinger, president; Vernon Kraushaar, vice-president, greenhouse section; Kenneth Zellers, vice-president, truck crop section.

Back row, Leo Gaffin, treasurer; E. C. Wittmeyer, secretary; Clinton Seitz, director. E. L. Drollinger, assistant secretary, and Curtis Judy, Jr., vice-president, are not shown in picture.

that few new pesticides are designed for more than one or two specific insects. This requires greater attention to spray programs with individual crops, and to consideration of residue tolerance as described under the Miller Amendment.

### Chemical Weeding

According to Dr. E. K. Alban, Ohio State University vegetable specialist, vegetables can be weeded chemically almost exclusively today with such weed killers as Randox, Simazin (Geigy), Neburon (DuPont), and Amino triazol. The latter, although it has not yet been recommended, appears good for weed control in sweet corn if directed on the young weeds, while Neburon, also not recommended as yet, has given good control of crabgrass and foxtail in potatoes and tomatoes with no crop injury when applied at 5 pounds per acre.



At the annual banquet of the Ohio Vegetable and Potato Growers Association, Miss Marcia Hahn was crowned 1957 Ohio Vegetable Queen by the last year's queen, Miss Nancy Paddock.

Simarzin may be available in 1958 and is a specific weed control in lima beans, sweet corn, potatoes, and tomatoes, although it kills or injures snap beans. Randox controls crabgrass and foxtail in both lima and snap beans, sweet corn, tomatoes, and potatoes without crop injury, and is applied at the rate of 6 pounds per acre.

Growers Alfred Wolfer, Marathon; Kenneth Zellers, Hartsville; Meade Pottenger, Harrison; and county agent Harold Ward, Cleveland, participated in the weed control discussion.

### Soil Fumigation

P. L. Pontoriero, of the Shell Chemical Co., Columbus, advised growers that to have an effective soil fumigation program the soil should be moist and the fumigant covered or sealed in when applied. DD has been most widely used for the control of nematodes with rates varying from 20 pounds for sandy soils to 40 pounds for heavier clay soil.

Granular types of insecticides of DDT, endrin, and heptachlor (not yet recommended for use in Ohio), will control corn borer and corn ear worm. Dr. L. H. Rolston, Ohio entomologist, feels that if the good results continue, granular materials may replace sprays for earworm control.

Early spraying is necessary, Rolston emphasized, the first earworm spray to go on no later than when 10% of the plants show silk, according to Rolston. From two to four sprays of DDT are recommended, depending upon the length of the silking period. Application per acre is at the rate of 2 pounds of emulsified DDT concentrate in 25 gallons of water every three days.

### Marketing

A marketing discussion led by Dr. John Carew, Michigan State University, emphasized co-operative marketing as a means

(Continued on page 48)



Dr. H. O. Werner, potato specialist, University of Nebraska, discussed potato production trends and storage construction at Ohio meeting.

AMERICAN VEGETABLE GROWER





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STABLE GROWER

## GROWING ASPARAGUS

(Continued from page 45)

that they cut carefully. That's one thing that makes our production per acre high, and it also helps quality."

This care is typical of the entire Williams operation. For the first two or three years, for instance, a new field is not forced, and harvest crews are taken out in a few weeks.

As the plants head toward their prime during the fifth and sixth years, the harvest is stretched as long as cool weather allows.

"We figure on a 100-day harvest," says Williams. The last day of cutting ordinarily is about the middle of June, but has varied from May 29 to June 23.

The fields are then "laid by" until frost, when the tops are cut and worked into the soil and the beds are ridged up in preparation for new growth in the spring.

When the commercial harvest is over, another task starts—a small-scale job but one vital to the entire



Raymond L. Williams shows the kind of asparagus plant he chooses for seed production: tall, smooth, with no sign of branching out yet.

operation. As the last shoots of asparagus reach up a foot or so, the fields are carefully surveyed to find the best individual plants.

"We want fairly high growth, 14 to 16 inches before any sign of feathering out, smoothness, and a tight tip," reports Williams. These plants are staked, and in the fall their seed is collected.

By this self-perpetuating program, the Williams brothers have produced their entire acreage—except for a few small experimental plots—from 2 pounds of seed originally received from South Carolina by Fred Williams in 1924. The variety is Giant Mary Washington. **THE END.**

APRIL, 1957



when you add **TRIANGLE BRAND COPPER SULPHATE** to your fertilizer.

Vegetables rich in minerals cannot be grown in copper-deficient soil. In addition, they are less appetizing and thus do not appeal to the consumer. Proper dosages of Triangle Brand Copper Sulphate—added to your fertilizer—will provide this vital soil mineral. More abundant growth of healthier and more flavorful vegetables is assured with use of copper sulphate in your fertilizer. This results in higher market values and greater profit. Don't forget to use Copper Sulphate in Bordeaux sprays and dusts for dependable control of common vegetable diseases.



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REFINING CORPORATION

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Control  
POND SCUM  
and ALGAE in farm  
waters with Triangle Brand  
Copper Sulphate. FENCE POST  
Treatment with Triangle Brand  
Copper Sulphate prevents  
decay and termite damage.  
Send today for information  
on these important  
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### Are You a Seed Salesman?

Add to your income by selling  
**AMERICAN VEGETABLE  
GROWER.** Write today for our  
liberal, nursery agents' plan.  
Address:

**EDWARD MEISTER**  
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**AMERICAN VEGETABLE GROWER**  
Willoughby, Ohio

### ATTENTION! VEGETABLE GROWERS FERTAL-GRO IS HERE

FERTAL-GRO (dehydrated cattle manure) is odorless, free of weed seed, pulverized and easy to spread. FERTAL-GRO's organic material serves as food for soil micro-organisms. FERTAL-GRO is an excellent soil conditioner. FERTAL-GRO can be used as a mulch. FERTAL-GRO contains nutrients beneficial to plant growth.

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WRITE FOR SAMPLE & PRICES.

**Maegoe Dehydrating Company**  
LEXINGTON NORTH CAROLINA

## MIDWEST SEED GROWERS

• The best salesmen we have are the vegetable growers who are using our seed. We specialize in supplying the growers who are quality minded and want to purchase the best seed available.

• This year several varieties of cabbage and onion seed are short. However, we are able to offer the following outstanding popular varieties:

CABBAGE		Write for Prices
"	Highland Ballhead	
"	Danish Ballhead, Midwest stock 62	
"	Globe, yellow-resistant	
"	Oakview Ballhead	

ONION		
"	Beltsville Bunching	Lb. 7.00
"	White Lisbon	Lb. 4.50
"	White Bunch	Lb. 4.50

WRITE for our free market gardeners and florists price list.

### MIDWEST SEED GROWERS

Dept. V-47 505 Walnut, Kansas City, Mo.

**ESHELMAN TRACTORS** LOW \$99 AS

Plows • Cultivators • Saws • Cuts • Soers • Harrows • Hauls • Snow-Plow • Rolls

Esheleman Tractors, Tillage, Riding Rotary Mowers, for Better Lawns and Gardens. Advertised in GOOD HOUSEKEEPING. Thousands of satisfied users. Write for Free Literature.

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Ship The Best!

When Sprouts Grow, Sales Are Slow!!

Lockwood's sprout inhibitor will help your potatoes look their best on arrival.

#### SHIPPERS!!

Plan now to use Lockwood's sprout inhibitor on all your late winter shipments out of storage. (Full stocks at all Lockwood branches).

**LOCKWOOD GRADERS**  
Gering, Nebr.

10 BRANCHES THROUGHOUT AMERICA

## STATE NEWS

(Continued from page 46)

of providing small or moderate sized growers with a bargaining tool. To be successful a good job of organizing must be done and top notch sales managers must be employed.

### Budget Equipment

Mechanical minded vegetable growers found great interest in the illustrated talks of James Rear of Rear's Farm Service, Eugene, Ore. He pointed out that one of



Discussing vegetable production and marketing trends are (left to right), Joseph S. Shelly, executive secretary, Vegetable Growers Association of America, Dr. John Carey, Michigan State U.; James Rear, Rear's Farm Service, Eugene, Ore.

the major areas of progress in this field is the adaptation of existing equipment for specific uses. He illustrated the use of equipment his firm develops, especially bean staking and stringing machines that do these tedious and labor-consuming jobs mechanically with one or two men operating the machine. Since most of Oregon's vegetable growers operate small farms of 10 to 20 acres, he designs equipment within their price range. It is one way of helping the small grower remain in competitive business.—Eldon S. Banta.

### Chinook Broccoli

WASHINGTON—A new broccoli variety, Chinook, has been released by the Washington State College experiment

stations. The variety, bred by Dr. John F. Moore, associate horticulturist at WSC's Puyallup station, is a heavy producer and has a good green color. There are almost no green or leafy heads produced.

Moore believes growers will like Chinook's uniform maturity for a large percentage of the center heads can be harvested in one or two pickings. In western Washington, Chinook is earlier than Medium broccoli but later than Waltham 29.

Although seemingly best adapted to the cool growing seasons of central and northern Washington, other areas where broccoli is grown in late fall or winter may find Chinook useful.

Seed may be had through commercial seed companies, but growers who cannot locate a commercial source can contact the Western Washington Experiment Station, Puyallup, for more information.

### Growers Defy Cold

MAINE—The Maine Vegetable Growers Association held their annual meeting in conjunction with the 16th annual Agricultural Trade Show at Lewiston.

The 30° below zero weather affected the attendance, but growers who braved the cold felt well paid for their efforts. They heard such speakers as Dr. Raymond Sheldrake, of New York Experiment Station, tell about "Plastic Greenhouses;" Dr. M. T. Hilborn, on "Nematodes and Vegetables;" Dr. John Hawkins, "Preliminary Work with Lettuce Root Louse;" and Dr. Paul Hepler tell about "Increasing Early Tomato Yields."

New officers elected were Harry E. Prout, Bowdoinham, president; Robert Prout, Scarborough, vice-president; R. W. Paulson, Orono, secretary-treasurer; Hans M. Hanson, Jr., Gray, and Fred Burkhart, Cape Elizabeth, directors for three years; and Philip Bagley, Cape Elizabeth, director for one year.—Robert W. Paulson, Orono.

(Continued on page 61)

## Know Your . . . VEGETABLE SEEDS

By VICTOR R. BOSWELL  
U.S. Department of Agriculture

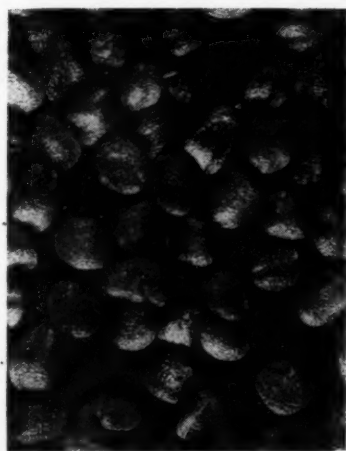
### UPLAND CRESS

UPLAND cress is a very minor vegetable that should be more popular because of its excellence as a potherb. It has a sprightly characteristic flavor, is hardy, and easy to grow.

The seeds of this cress are among the very smallest of vegetable seeds. They are nearly round, slightly oblong, and under magnification are seen to have a beautiful finely pitted surface, unlike that of any other common vegetable seed.

The production and value of upland cress seed are small; no figures on them are readily available. The seed can be produced anywhere that seed production of other biennial crucifers, such as cabbage and turnip, is feasible. Cress seed is produced in this country and is also imported in very small amounts from Europe.

Upland cress is quite hardy to winter cold over most of the United States. The over-wintered plants produce a flush of growth very early in the spring and soon send up low stalks that bear a profusion of bright yellow flowers. In some districts this species has become a weed, producing



very early masses of yellow color in such uncultivated areas as pastures and fence rows.

## STATE NEWS Special Report

### NEW VARIETIES ON TRIAL IN OHIO

MANY of the new vegetable varieties tested in Ohio during 1956 were promising and worthy of further trial by growers. These tests were conducted by the department of horticulture of Ohio Agricultural Experiment Station at several locations over the state. Some of these new varieties have been carried in the trials for two or three years prior to release under the originators' code numbers. Only those released and available to growers are suggested for limited scale trials.

#### BEANS

##### Corneli 14 (Corneli)

Produces heavy yields of long, smooth, dark green, slender pods, borne high on the plant. Set concentrated. Pods fleshy, high quality, with small seeds at harvest maturity. Mosaic resistant, suitable for processing and fresh market.

##### King Green (Woodruff)

An exceptionally high quality bean for processing and market. Pods smooth, round, very straight, set high on a medium large plant, meaty, 6 1/2 to 7 inches long. Small light seeds at harvest maturity. About Tendergreen maturity.

##### Tenderbest (Ferry-Morse)

Has attractive, straight, 6 to 6 1/2 inch, round and bright green pods. High quality and yields from erect, vigorous plants. Slightly later than Tendergreen.

#### BROCCOLI

##### Texas 107 (Texas AES)

Plants very uniform and vigorous. Central heads large, compact, dark green. Many large laterals produced along with and after center heads. Slightly earlier than DiCicco. Well adapted to early or late planting.

#### CABBAGE

##### Greenback Y.R. (Ferry-Morse)

A Round Dutch type in season with Marion Market. Excellent quality, very solid, deep green heads, holds like Bonanza in summer and fall. Tendency to split in early spring. For local market and shipping.

#### SWEET CORN

##### KVF 54-65 (Corneli)

One of the highest yielding hybrids on trial. Very tender and honey sweet, bright golden kernels of medium depth. A vigorous plant produces 8- to 9-inch ears, predominately 14-rowed, with good husk color and attractive flags. Tichief or Victory Golden maturity.

##### Sugar King (Northrup King Code 78A)

Has excellent quality, tender, sweet, deep and narrow, bright yellow kernels. Large near cylindrical ears, attractive dark glossy green husks, with long flags. High yielding and vigorous plants. Snaps easily. Carmelcross maturity.

##### Victory Chief (Woodruff Golden Hybrid 3952)

An exceptionally high yielding, high quality, multi-eared hybrid maturing with Golden Security. Ears 7 1/4 to 8 1/4 inches long, 1 3/4 inches in diameter, deep, medium golden kernels, predominately 16 rows. Attractive ears with dark green husks and long flags.

#### TOMATOES

##### Foremost E-21 (Ferry-Morse)

An F<sub>2</sub> producing high yields of large, near globe, smooth, crackfree fruits when staked. Plants indeterminate with moderate foliage cover.

##### Moreton Hybrid (Harris)

An F<sub>1</sub> that is increasing in popularity throughout the state because of its very high early yields of large, smooth, attractive fruits which are resistant to severe cracking. Produces high yields over a long season.

—Walter N. Brown, Ohio State University.

Planning to build a plastic greenhouse? Send 25 cents to AMERICAN VEGETABLE GROWER, Willoughby, Ohio, for sets of plans developed by Kentucky and New York experiment stations.

APRIL, 1957



## Sprinkler irrigation service calls for WISCONSIN ENGINE HEAVY-DUTY STAMINA

Long, hard hours of continuous pumping . . . especially during hot weather . . . is one of the toughest jobs you can hand any engine. Irrigation service calls for basic Heavy-Duty design and construction to provide the inbuilt stamina and operating dependability that enable the engine to carry the load day after day, with minimum maintenance.

Model VG4D V-type 4-cylinder 36 hp. Wisconsin Heavy-Duty Air-Cooled Engine. Other models — Single Cylinder, 2- and 4-cylinder — 3 to 56 hp.

In addition all Wisconsin Air-Cooled Engines, as specifically supplied for irrigation pumping service, are equipped with Stellite-faced Exhaust Valves, solid Stellite Valve Seat Inserts and positive-type Valve Rotators. This adds from 200% to 500% to valve life, and reduces valve maintenance and servicing in like measure. An Automatic High Temperature Safety Switch provides protection against preventive maintenance negligence . . . shuts off the engine before damage can occur.

In addition, basic high-efficiency AIR-COOLING permits safe operation at temperatures up to 140° F. and minimizes the number of parts concerned with cooling. Light weight design makes for easy portability when operating from ponds, ditches, streams, lakes or field wells as well as simplifying maintenance.

Regardless of size, there is no more rugged engine built than a "WISCONSIN" horsepower for horsepower. Ask for name of our nearest distributor and copy of irrigation folder S-181 and Bulletin No. S-195.



## WISCONSIN MOTOR CORPORATION

World's Largest Builders of Heavy-Duty Air-Cooled Engines

MILWAUKEE 46, WISCONSIN

## Build Greater Profits . . .

### By Building Up Your Library

- **HANDBOOK FOR VEGETABLE GROWERS.** By James E. Knott. 238 pages—\$3.95

Much of the widely scattered information on vegetable growing is packed into this spiral-bound, pocket-size handbook. Source of material is included. A "must" for your library.

- **THE TOMATO.** By Paul Work. 136 pages—\$2.50.

Here is a practical treatise on the tomato for the amateur as well as commercial grower. It includes discussions on characteristics; methods of planting, fertilization; cultivation; harvesting and marketing; and insects and diseases.

Books sent postpaid on receipt of check or money order

- **VEGETABLE GROWING.** By James S. Shoemaker. 515 pages—\$6.00.

How, when, and where you can profitably produce 40 different vegetables. Based on up-to-date findings, the book discusses time and depth of planting, harvesting, storage, and marketing. Much new material on hybrid seeds is included in this new second edition.

- **GREENHOUSES — THEIR CONSTRUCTION AND EQUIPMENT.** By W. J. Wright. 269 pages—\$3.50.

Here is concise information about the different forms of construction, heating, and equipment. Greenhouses, hotbeds and cold frames, forcing houses and pits, all receive full and detailed treatment.

**AMERICAN VEGETABLE GROWER**

Willoughby, Ohio



## ONE-TIME PEAT POT

- Saves Labor
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- Greater Production
- Greater Profits

### PAYS FOR ITSELF

One-time peat pot made of the finest horticultural peat and fertilized to compensate for decomposition of pot.

Proven, tested by agricultural experiment stations and used by leading growers.

SIZES 2" to 4"

Write today to—

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a new spray stops deer damage



Protect your property now this new easy way.

Here's a new way to keep out foraging deer—MAGIC CIRCLE Deer Repellent. It's an easy-to-use chemical, that, sprayed on the ground forms a band of special deer-repelling odor around yards, orchards, gardens and fields. Deer just won't cross it. Ingredients have been proven by tests at Pennsylvania's leading agricultural University.

- keeps out deer, and in most cases, beaver, woodchuck, raccoon and skunk
- use with most ordinary sprays or by itself
- won't harm plants
- won't harm spray equipment
- low in cost
- one and five gallon containers

**STATE COLLEGE  
LABORATORIES**  
State College, Pa.

## Boys' and Girls' Page

# NJVGA Prepares You for a CAREER IN HORTICULTURE

Here is its program for 1957

**THE** National Junior Vegetable Growers Association now enters its 23rd year of an outstanding educational program to prepare young men and women for careers in horticulture. In the years ahead there is a definite need for sound and progressive leadership, the use of intelligent production and marketing methods, plus the effective and economic use of these crops and crop products. Through its special projects, NJVGA is prepared to meet this challenge. Here is the program for 1957:

### 18th Annual Production and Marketing Contest

This is the second year in which fruits as well as vegetables have been represented in the Production and Marketing Contest. This activity is designed to stimulate and encourage an interest on the part of boys and girls in the growing and marketing of horticultural crops.

For 1957, the Production and Marketing Contest, open to youth between the ages of 14 and 21 (who have completed at least one previous year of horticultural project work) is divided into two sections: 1) for fresh market sale or home use, or 2) for sale to canning or processing plants. Each section may include vegetables and/or small and tree fruits. There is also a sub-section in each section involving quality and/or yield of comparative varieties. Participants may enter either the fresh market or the canning section and in addition the variety sub-section.

Awards for both the Fresh Market and Canning Crops Sections will be identical on national, regional, and state levels. In each section the **National Award** (one) will be: \$50.00 in cash, to be used toward expenses in attending the annual NJVGA convention; gold wrist watch; maroon NJVGA jacket; 10-k gold NJVGA pin; purple rosette ribbon. **Regional Awards** (four): \$25.00 in cash, to be used toward expenses in attending the annual NJVGA convention; gold wrist watch; maroon NJVGA jacket; gold-filled NJVGA pin; blue rosette ribbon. **State Awards:** NJVGA encourages the recognition of participants in all of its projects on a state basis by local awards and publicity. In addition, the National Association will

award silver NJVGA pins and blue ribbons to the top two state winners and bronze NJVGA pins and red ribbons to the third, fourth, and fifth winners.

The Variety Sub-Section carries the following awards: **National Award** (one): \$25.00 in cash; \$25.00 seed certificate; maroon NJVGA jacket; 10-k gold NJVGA pin; purple rosette ribbon. **Regional Awards** (four): \$15.00 in cash; \$10.00 seed certificate; maroon NJVGA jacket, gold-filled NJVGA pin; blue rosette ribbon. **State Awards:** First and

### NJVGA ACTIVITIES ON FILM

During the NJVGA convention in Atlanta last December two film productions were made that will soon enjoy wide distribution.

The first film—20 minutes in color (16mm sound)—explores all of the facets of a Career in Horticulture using the NJVGA program as a background.

The second film—25 minutes in black and white (also 16mm sound)—uses the Annual Convention as the means of describing the many activities that are carried on within the scope of this youth program.

The NJVGA Headquarters, 103 French Hall, University of Massachusetts, Amherst, Mass., will operate a circulating library of these productions on request. Other distribution plans are in the making.

second placement—silver pin and blue ribbon. Third, fourth, and fifth placement—bronze pin and red ribbon.

A **National Achievement Award** of \$100 will be bestowed upon the individual selected by the National Awards Committee on the basis of the most outstanding project report from all sections of the contest, as well as on the basis of his or her character, citizenship, and interest in horticultural work.

### 15th Annual Demonstration Contest

The National Demonstration Contest, also involving vegetable and fruit crops, will again be divided into the four sections of production, soil fertility and improvement, marketing, and use. The two most worthy demonstrations in each division, in the preliminary contest, will compete in the finals for the national awards on the basis of a first, second, and third placement. Contestants between the ages of 14 and 21 may participate as individuals or as a team of two in a 15-minute original demonstration. No state



A bi-monthly page for the younger generation of vegetable growers and their national organization, the National Junior Vegetable Growers Association. For information write Grant E. Snyder, French Hall, University of Massachusetts, Amherst, Mass.

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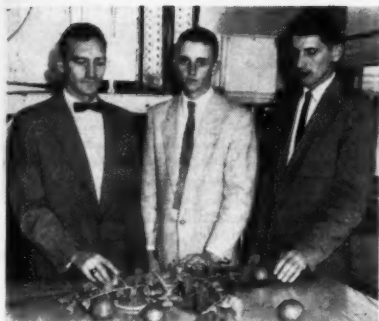
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ETABLE GROWER



### JUNIOR TOMATO GROWER WINS NATIONAL HONORS

Gary Marlin Bishop, Mt. Blanchard, Ohio, won the top award in the 1956 National Junior Vegetable Growers Association Canning Crops Production and Marketing Contest with his 5.17 acres of F Hybrid tomatoes. His yield averaged 18.26 tons per acre with 58% grading No. 1's, 40% No. 2's, and only 2% culls.

Marlin set his plants on May 29 and 30 on a field that had a good alfalfa-clover sod plowed under. In 1955 about 5 tons per acre of cattle manure had been applied to the field. For the tomato crop Marlin plowed under 800 pounds per acre of 3-12-12 fertilizer. No other fertilizer was used except the starter solution at plant-setting time. Plants were set 27 inches apart in rows spaced 5 1/2 feet apart. Three spray applications of Maneb and DDD were applied during the growing season to control insects and diseases.

Marlin explains his modest yield of tomatoes this way: "We had an early freeze that killed all the vines; otherwise, I might have made 5 or 10 tons more per acre."

Marlin is shown in above photo with Paul Rogers (left), H. J. Helms Company fieldman, and Ed Drollinger (right), Ohio Experiment Station vegetable specialist.

may enter more than two demonstrations in each of the four divisions of the contest.

Awards in preliminaries go to members of the top two teams in each section as follows: Gold wrist watches; maroon NJVGA jackets; blue rosette ribbon to No. 1 in each section, and red rosette ribbon to No. 2 in each section. All other participants in the National Contest will receive blue ribbons.

Finalist Awards consist of First Place: 10-k gold pins and purple rosette ribbons. Second and Third Places: gold-filled pins and purple rosette ribbons. Fourth, Fifth, and Sixth Places: silver pins. Seventh and Eighth Places: bronze pins.

### 23rd Annual Judging-Grading-Identification Contest

The oldest contest in the history of NJVGA is a training program covering the identification of the more important varieties of vegetables, diseases and insects, weeds, grade defects, and nutrient deficiency symptoms. It also involves judging quality and condition of potatoes, onions, beets, carrots, and peppers, as well as the grading of 100 specimens of potatoes.

The Snyder Trophy, a large oak and gold plaque, is awarded to the team placing first in this contest. This plaque must be won three times before it becomes the property of the school, club, or team. Each individual on this team will receive a purple rosette ribbon. Participants placing from 1-3 will receive gold wrist watches, maroon NJVGA jackets, 10-k gold NJVGA pins, and blue rosette ribbons; 4-6 maroon NJVGA jackets, gold-filled NJVGA pins, and red rosette ribbons; 7-10 maroon NJVGA jackets, silver NJVGA pins, and white rosette ribbons; 11-20 silver NJVGA pins, and blue ribbons. 21-40 Bronze NJVGA pins and red ribbons; 41-100 white ribbons.

APRIL, 1957

Put an  
Impregnable Coating  
Against Blight Around Your Crops!

## Chem-Bam with U-101

FULL PLANT COVERAGE . . . FULL PROFITS

Chem-Bam's the only fungicide with U-101, an exclusive sticking agent that "glues" the fungicide to vines and plants. Neither rain nor watering will wash Chem-Bam away.

Result? Your crops get full coverage and protection... you pocket full profits. Plants are greener, healthier. Yields per acre are greater (10% greater according to field tests made by a leading agricultural college).

### SAFE, TROUBLE-FREE APPLICATION

U-101 also doubles as a spreading, wetting agent. It lets you mix Chem-Bam easily, evenly with water and insecticide. It gives you even distribution in spray-area.

Spray with Chem-Bam, the  
Only Liquid Fungicide with U-101—  
An Exclusive Sticking Agent

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CHEM-BAM with  
U-101 ideal for  
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Save Labor Costs with Weed Sprays . . .  
The May Issue of AMERICAN VEGETABLE GROWER  
Will Tell You How to Do It

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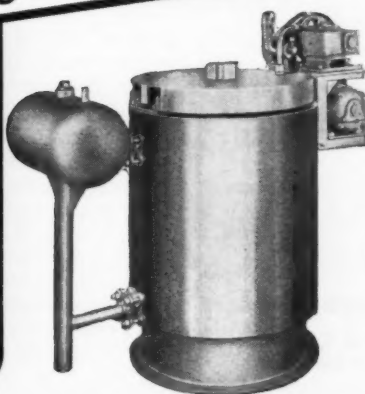
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FLAKED ICE

for as little as

\$1.50 to \$2.00 per ton

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FLAKED  
ICE  
MACHINE**



A fully automatic Ice Machine—ice starts immediately. It's economical—you pay only for the ice you use. Occupies less space than the storage bin. Large capacity—3 to 12 tons per day. Installation is simple—can be connected to present refrigeration system or we can furnish complete with compressor, etc. Use coupon or write.

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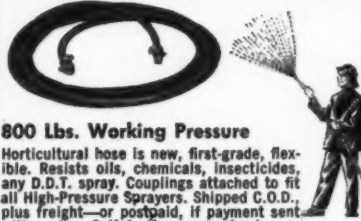
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Branches: Ft. Wayne, Ind.; Green Bay, Wis.; Knoxville, Tenn.

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554 W. Washington Blvd., Chicago 6, Ill.  
Please send bulletin on Burge Flaked Ice Machine.

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**High-Pressure SPRAY HOSE**  
Special value—shipped immediately



**800 Lbs. Working Pressure**  
Horticultural hose is new, first-grade, flexible. Resists oils, chemicals, insecticides, any D.D.T. spray. Couplings attached to fit all High-Pressure Sprayers. Shipped C.O.D., plus freight—or postpaid, if payment sent with order. Satisfaction guaranteed—or your money refunded.

CHOICE OF LENGTHS	INSIDE DIAMETERS		
	3/8"	1/2"	3/4"
25 ft.	\$10.25	\$11.75	\$16.25
50 ft.	19.00	21.75	30.00
75 ft.	27.75	31.75	43.75
100 ft.	36.50	41.75	57.50

**Agricultural Rubber Products Corp.**  
268 Washington St., New York, N. Y.

**"ZON" SCARECROW**  
Positive crop protection. Efficient and economical. Operates on acetylene, butane or carbide for many days without refueling. Retail price, \$50. Dealership available. Write: **B. M. LAWRENCE CO.**, 244 California St., SAN FRANCISCO 11



### For Profitable Crops



Seeds of Proven Merit



### Yellows Resistant Cabbage

**Badger Market.** Early, very uniform solid heads which hold well. Compact. 1/4 lb. \$2.25, lb. \$7.50.

**Badger Ballhead.** For late summer or fall harvest. Very solid medium size, blue green. 1/4 lb. \$2.50, lb. \$7.50.

**Wisconsin Ballhead.** Nearly round solid compact heads, larger than Badger Ballhead. 1/4 lb. \$2.25, lb. \$7.00.

**Send Today**

For complete 1957 Catalog  
Vegetable and Flower Seed

**Letherman's**

Dept. VG  
Canton 2, Ohio

### 'WONDER' MULCH

(Continued from page 14)

what more for tomatoes, since extra cost was incurred in setting plants. However, where no staking is required, the extra expense for setting through plastic is small compared with staking costs.

On crops such as beans and tomatoes it doesn't take long to equal the cost of the plastic in plowing and hand weeding. However, costs are materially increased over no plastic. A fair figure for the net increase in costs would not exceed \$100 an acre. If tomatoes are staked and pruned, the cost would be greater. If a machine is used to lay the plastic, the costs would be less than \$100.

A small amount of the plastic on the commercial planting had been used the previous year. This was left in place and replanted without re-plowing. To our amazement these beans and tomatoes did much better than those on the fresh-laid plastics.

Where there is any slope, excess rain runs off. The soil under the old plastic remained loose. Little leaching occurred, and the nitrification build-up was good. Without a doubt the plastic mulch which had been down a year induced earlier harvest and better quality of the beans growing under it.

### Should Last Four Years

Black plastic is expected to withstand four years of weathering. If this is true, the estimated cost of \$100 an acre would be reduced to less than \$25 an acre because no re-plowing would be necessary. Of course, the plastic so far has been used only two years. Whether it will perform the same the third and fourth years as it did the second year is still to be determined. However, even if it had lasted for only one year, the income from the early beans and tomatoes would have paid for the plastic many times over.

An acre of bunch beans through plastic yielded approximately 285 bushels. The beans were longer and cleaner than those not on plastic. In fact, some beans in the check plots became so spotted from rain spattering that they could not be sold at all. The plastic-grown beans came in 10 days sooner, were clean, and brought \$3 a bushel at the start. The average for all was \$2.30, resulting in \$655 for the acre. The beans that were salable on the check plots realized only \$126 per acre.

The plastic and laying cost as listed above was only \$145, without deducting benefits in weed control. In this case the plastic mulch paid for itself

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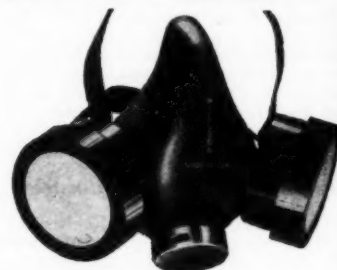
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GETABLE GROWER

several times over in one year. If it can be used for several years, it will be a highly profitable investment.

An acre of Kentucky Wonder beans produced 602 bushels. They came in 12 to 14 days ahead of those planted without a plastic mulch. They were of excellent quality, and the first ones brought \$5 a bushel. The crop on plastic was nearly over when the beans on the check plots came in. The crop on plastic averaged \$2.65 a bushel, and gave an income of \$1595 an acre.

The cost of poles, string, and stringing labor was about \$400 an acre above other costs. The plastic and labor cost was about \$145. Other costs such as fertilizer, plowing and planting costs, baskets and picking costs and land use were estimated at \$425 an acre. Deducting these amounts, we still have \$625 clear profit above all costs.

### Tomatoes Come in Early

Tomatoes on plastic also brought good returns. Records of the exact total income were not so well kept on these. However, the crop again came in about 10 days to two weeks early. During this period they brought an average of 20 cents a pound for about 2 pounds per plant, or 40 cents a plant. About 4000 plants were set

per acre. This brought in \$1600 before the price dropped. Several hundred dollars were taken in after this. No staking was done, so profits were even higher than those from Kentucky Wonder beans.

These estimates of costs were based on one year's use. If the plastic lasts for four years and reduces the need of land working, weeding, and fertilizer (because of reduced leaching) as well as forcing the crop early, it will be highly profitable.

The value of black plastic during a drought has not been mentioned. One year at the experiment station, Kentucky Wonder beans were grown under extreme drought conditions. Pastures and gardens were dried brown. The only green spot was the Kentucky Wonders on black plastic. By running water through slits in the plastic every 2 to 3 feet along the bottom of the furrows a dense green mass of vines and beans was produced.

Only about a 20-inch strip of soil was wet, the space between double rows remaining bone-dry. The plastic-mulched plants produced 580 bushels of good beans, while the unmulched plants produced only 37 bushels of beans unfit for sale.

Beans grown through black plastic on level ground with whirling sprinkler irrigation were a failure. At first

they grew nearly as well as did the furrow plastic beans, then they failed to flourish, and bacterial blight was prevalent on wet vines. On the furrows the vines were not wet and produced a fine crop that brought \$5 a bushel. Only about a third as much water was used in the furrows. Of course, only about one-third of the ground was wet, but the beans grew better than on the sprinkled ground where it was all-wet. The furrow type of irrigation is not so effective without plastic mulch.

Most midwestern soils will not carry water long distances because the soil is too porous. Plastic overcomes this. Too uneven ground makes furrow irrigation difficult, but by the use of contouring practices, furrows can be used on irregular land.

Rain or irrigation water also serves to wash in nitrogen and potash through the holes in the plastic. (All the phosphate was put in before the plastic was laid.) There is little leaching, and the fertilizer accumulates under the plastic during the winter.

On slopes the plastic-mulched soil will remain loose and weedless with little erosion or leaching. Several years' crops can be made without plowing or weeding. The plastic can be walked on and driven over if there are no sharp points. **THE END.**



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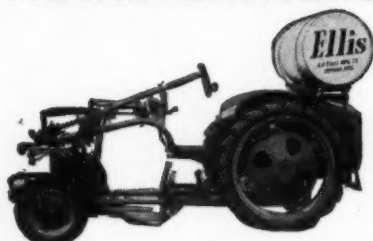
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## DON'T GAMBLE WITH FROSTS

(Continued from page 11)

fairly slow and the danger of a radiation frost is usually relatively remote.

Temperature inversion is a condition that is linked with atmospheric radiation. During the day the ground and other exposed objects are warmed by the sun, and they in turn warm the air. The air near the ground is warmer than the upper air, so it tends to rise. At night the ground and other objects cooled by radiation losses in turn cool the surrounding air. The cooled air, being denser, remains near the ground, leaving warmer air overhead. This process, being the opposite of daytime conditions, is called a temperature inversion.

A warm, sunny day followed by a night with strong atmospheric radiation favors a large inversion which may amount to as much as 15 to 20 degrees at 50 to 200 feet above the ground. A large inversion favors the efficient use of heaters and wind machines. It also provides conditions for a moderate breeze to be effective in maintaining favorable temperatures at the crop level. On the other hand, stirring of the air when there is little or no inversion may result in faster cooling of the plants due to the circulation of cooler rather than warmer air.

On slopes, the air cooled by contact with the plants and soil or by other means tends to drift downward and collect in low pockets that have no air drainage. The low spots, accordingly, are more subject to frost damage than the slopes above which the warmer air pulled in by the downward drift tends to counteract the cooling caused by radiation.

### Heat Is the Key

By now it is obvious that heat is the key to frost protection. It is the loss of heat from plants that chills them to the freezing point. To counteract this loss, heat must be supplied from an outside source. Frequently it is possible to supply enough heat to successfully combat radiation-type frosts, while under most conditions it is hopeless to try to meet the high requirements occasioned by the approach of a subfreezing air mass. It should be noted that the term "radiation-type frost" may include those resulting from the importation of moderately cool air plus further heat losses from radiation.

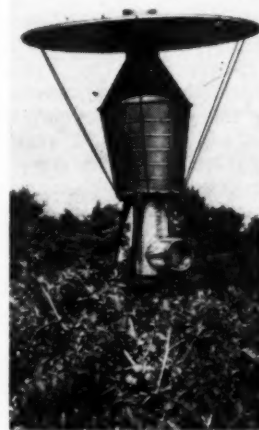
### Sources of Heat

The two principal sources of heat for frost protection are the sun and artificial heating. To utilize the sun, its heat must be stored in the soil during the preceding day or days and be

released during the night to warm plants and other objects just above the ground.

Dark-colored and firm soils absorb and radiate heat faster than light-colored or recently tilled soils, while moist soils hold more heat than dry ones. Coverings such as sod, mulches, or weed growth are detrimental to heat transfer. The sun, of course, is the source of heat for warm overhead air masses and also, either directly or indirectly, for any water that might be used for frost protection unless it is artificially heated before application.

There are numerous methods of artificial heating ranging from the burning of old tires or baled straw to the use of smudge pots or hot-stack



Heaters of this type radiate heat to plant surfaces directly in view of heater; do not heat the air or the "shaded" side of plants.

and radiant-type heaters. Artificial heating should be used as a supplement to the heat from the soil. Accordingly, heating is most useful or necessary when soil heat is low due to lack of sunshine or low heat transfer.

Artificial heating is most effective with "low ceilings" resulting from large temperature inversions when both convective and radiant heat is useful. Radiant-type heaters are likely to be the more efficient under conditions of small inversions or when all of the plant surfaces can be "seen" by the heater than convection types. It should be borne in mind that smoke or smudges alone are of little value either from the standpoint of heating or reducing radiation losses.

It should be kept in mind, also that many warm season crops, especially tomatoes, can be injured by being subjected to temperatures above freezing. This "chilling" injury can occur at

temperatures below 50° to 55° F., and therefore an extended cool period may cause the crop to become unmarketable because of poor ripening before a frost occurs. In such instances money spent on frost protection would be wasted.

Another warning is to beware of "quack" gadgets that are periodically promoted as short cuts to frost protection. Some have involved "magnetic" or "electronic" forces which mysteriously protect the vegetation at very low energy inputs. Any such idea that supposedly circumvents the use of energy (ultimately as heat) should be critically examined before spending any money on it or trusting a crop with it.

#### CHECK LIST FOR FROST PROTECTION

The various procedures that growers can use to provide protection against frosts may be categorized as follows:

##### Site Selection

Choose a site that will provide good air drainage. Southerly slopes also will allow greater heating of soil by the sun which will mean more heat release during the night. Avoid low areas where cold air collects. Locations exposed to the moderating effect of large bodies of water are very desirable.

##### Cultural Practices

Practices that will provide maximum heating of the soil and good heat transfer include:

- (a) The use of ridges to provide miniature southern slopes for planting.
- (b) Avoiding disturbance of the soil during frosty periods. Cultivation tends to form a mulch which reduces heat transfer. This is particularly important on muck soils which are naturally good insulators.
- (c) Keeping all ground not covered by the crop bare as well as firm. Control weeds by chemicals or cultivation, and do not use mulches or cover crops during the time that frost prevention is of prime importance. When planting crops for late fall harvesting, it may be advisable to space the rows wider than normal to provide more bare soil for heat absorption.
- (d) Maintaining good soil moisture. It should be borne in mind, however, that under good drying conditions such as low humidity, evaporation, which is a cooling process, may counteract some of the heat absorption value of the moisture.
- (e) Soil coverings of dark-colored paper or plastic sheets increase absorption of heat in the soil and provide good radiating surfaces.
- (f) Slightly toughened plants with fairly high dry matter content will withstand lower temperatures without freezing better than soft, succulent plants low in dry matter. Cultural practices aimed at slowing growth slightly will tend to toughen or harden plants. Avoid transplanting tender plants on days before frosts are predicted.

##### Reduction of Radiation

By covering plants the heat radiated will be trapped or reflected back.

- (a) Paper and brush protectors such as shown in the article on the Imperial and Coachella Valleys of California by John Lingle in the December, 1956, issue of AMERICAN VEGETABLE GROWER (page 9) are very effective.
- (b) Glassine hot caps and hot tents are not as effective as the paper-brush protectors, but they do trap heat during sunny days. This extra heat probably provides most of the frost protection. Both paper-brush protectors which are faced to the south and hot caps also provide warmer air temperatures for crops during cool but sunny days.
- (c) Makeshift protectors such as bushel baskets, cartons, boxes, or burlap sacks can be put over plants to provide protection on small acreages. These should be put on late in the day and removed the next morning.
- (d) Good plant foliage can serve as a protector for concealed fruits such as tomatoes or snap beans and for the root or tuber crops. Foliage often provides excellent protection against one or two light to moderate frosts or freezes.
- (e) Glass radiates heat readily, so using extra covers of good insulating material over glass sash (Continued on page 56)

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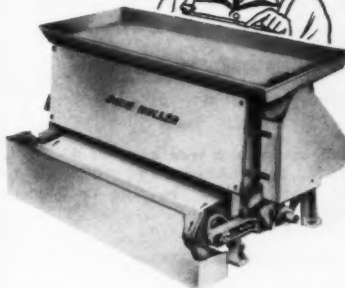
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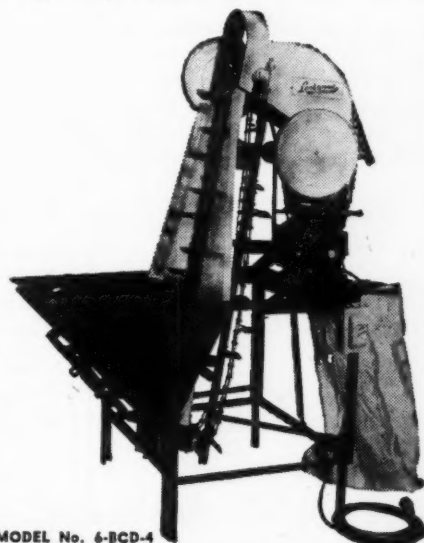
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## DON'T GAMBLE WITH FROSTS

(Continued from page 55)

on outdoor plant beds is a good practice on frosty nights.

(f) A modification of this type of protection is the covering of the plants with soil. This practice has been used successfully on young potatoes when unseasonable frosts have threatened the planting. On muck soils hilling soil around mature celery plants has been known to protect the crop from excessive damage from moderate frosts or freezes.

### Wind Machines

These offer another method of taking advantage of natural sources of heat by mixing the warmer air of an overhead inversion layer with the cooler air below. The air drift created moves the warmer air over the plants, thereby helping to keep the exposed portions above the freezing point. Wind machines, which usually consist of



This sprinkler is ready to go if frost threatens strawberry blooms. Large nail (arrow) closes right side of sprinkler so water comes through hammer side. Higher pressure thus obtained results in more fogging and drifting of the water.

airplane propellers attached to powerful gasoline or electric motors, are most effective when there is a strong temperature inversion. One good machine often will adequately protect up to 3 to 4 acres against a relatively light frost. Operated with weak inversions or during frosty periods caused by cold air masses, however, they may be valueless or even harmful.

### The Use of Water

The application of water through sprinklers or by surface irrigation has often been used successfully to combat frost damage, particularly in the spring. Water has a very high specific heat and reasonably good latent heat of fusion. This means that a pound of water releases a relatively large quantity of heat on cooling and freezing. As the water cools and crystallizes into ice, heat is released which serves to warm the plant parts.

Sprinkling, which places the water directly on the plants where the heat is needed, is frequently more efficient than surface application. It has been reported from Michigan that sprinkler applications of 1/10 inch of water per hour properly applied have protected strawberry plantings during ordinary late spring frosts. Either Skinner or portable-type sprinklers are satisfactory. With the portable type the amount of land that can be protected is limited to the area that can be covered by one setting, since it is impractical to move the equipment.

This method of frost protection, of course, is the most feasible on farms where

irrigation is practiced. It is highly questionable that a sprinkler system could be justified on the basis of frost protection alone.

### Artificial Heating

This offers possibilities for supplementing natural heat, but due to the high investment required for equipment and the cost of fuel for burning, regular heaters have not been used extensively in vegetable frost protection. The temporary nature of the crops, the uncertainty of when a real killing frost will occur, and frequently unsettled marketing conditions are further deterrents.

Heaters have been used successfully both to protect new plantings in the spring and crops at the harvest stage. Failures often can be traced either to delaying too long to start the heating or to using an insufficient number of heaters.

It is essential that sufficient heat be supplied to balance the radiation losses, and a halfway job just doesn't work. For this reason it is advisable for a grower who is considering using artificial heating to consult local field heating experts or his county agent before buying expensive equipment. In general, heaters with a high radiant output are probably the more desirable for low-growing vegetables and strawberries.

### Prediction of Frosts

Just as important as the method of frost protection is the problem of being prepared when the frost arrives. It does no good to have a sprinkler system in the barn or heating pots empty of fuel on frosty nights. Also, the greatest efficiency is obtained by knowing the proper time to start operating wind machines, heaters, or sprinklers, and when to shut them off.

The latter problem is best solved by having accurate thermometers in strategic locations in the field as well as near the house. On nights

### FROSTS ON THE FULL MOON?

The idea that frosts are more likely to occur around the time of the full moon is advocated by some and, if true, would be very useful to many people. A survey of the dates of the last killing frost in spring and the first in the fall was made by the author for 17 locations in the United States covering a seven-year period. The percentage of times these frosts occurred in the nine-day period starting four nights before and ending four nights after the full moon were as follows:

Last (spring) .....	28.5%
First (fall) .....	29.2%
Combined (first & last) .....	28.9%
Random expectancy .....	30.0%

The number of times that frosts occurred on nights of or near the full moon were:

Date	Number of frosts
4 nights before full moon	6
3 nights before full moon	4
2 nights before full moon	5
1 night before full moon	7
Full moon	7
1 night after full moon	4
2 nights after full moon	10
3 nights after full moon	9
4 nights after full moon	5
Average for each remaining night in the moon month	7.6

This survey, though brief, raises considerable doubts as to the usefulness of the moon for predicting frosts. It is true that atmospheric conditions favoring radiation-type frosts also favor seeing the moon, so that the two events may tend to become associated.

when frosts are imminent, these thermometers must be checked periodically so that heating operations can start in time.

Weather bureau data, the usual dates of early and late frosts, daily and long-range weather reports, and personal observations should also be utilized to the fullest extent. THE END.

AMERICAN VEGETABLE GROWER

## SOUTH CAROLINA

(Continued from page 13)

to some extent in the other areas. The potatoes are usually washed, graded, and packed in 50- or 100-pound bags by machinery although in some places they are still dry-graded.

**Sweetpotatoes:** Orangeburg and Horry counties are the most important producers of this crop, although commercial sweetpotatoes are grown in 16 counties. The acreage and production of sweetpotatoes has decreased rather drastically during the last five years.

**Tomatoes:** Commercial production of tomatoes is carried on in 15 counties. The largest acreage is found in Lexington, Orangeburg, Charleston, and Beaufort counties, which produce a late spring crop generally for the greenwrap trade.

Within the last few years there has been a very large increase in the acreage and production of fall tomatoes in Spartanburg, and to a lesser extent, Greenville County in the Piedmont area. Fall tomatoes may well evolve into an important crop in these two counties because this crop fits in well in labor, equipment, and harvest requirements with the large peach producing enterprise in these areas.

**Watermelons:** In terms of acres, watermelons make up the most important truck crop in South Carolina, and the state ranks nationally as the fourth largest producer of commercial melons. Production is widespread, and almost every county produces some watermelons. Actually, however, nearly three-fourths of the acreage is to be found in six counties in the Upper Coastal Plains.

The 1955 watermelon crop occupied over 63,000 acres and was valued at \$3,517,000. The Congo, Charleston Gray, and Cannonball are the varieties most commonly grown, with the relatively new Charleston Gray rapidly overtaking the Congo as the variety preferred by most growers. The USDA maintains a Vegetable Breeding Laboratory near Charleston, and it was at this laboratory that many of the newer long-type melon varieties such as Congo, Charleston Gray, and Fairfax were developed.

**Miscellaneous Crops:** Other vegetable crops, including squash, green peas, okra, spinach, radishes, turnips, lettuce, and other leafy vegetables, are not a very important part of the agriculture of the state, although in many cases they are extremely important to the local producers who grow them. Production of these crops is in most cases limited to the major vegetable producing counties in the Upper and Lower Coastal Plains. THE END.

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moon	7
moon	6
moon	10
moon	9
moon	5
remaining nth	7.6

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usual dates of early long-range weather ations should also be t. THE END.

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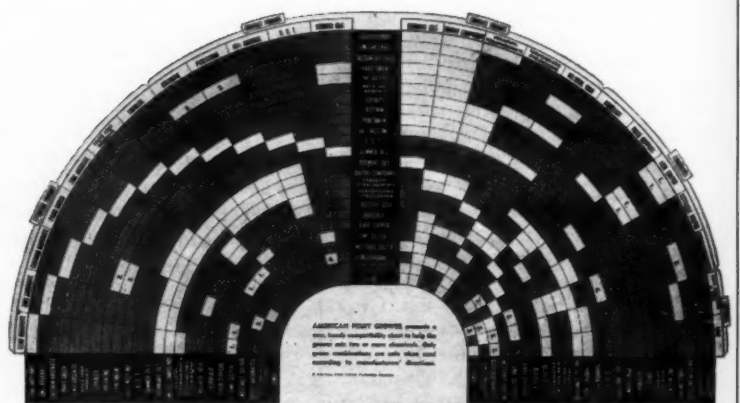
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Name .....  
Address .....  
City ..... State .....





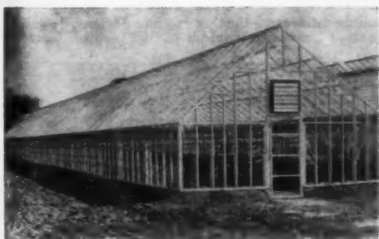
### Seedless Watermelon Seeds

The Institute for Breeding Research, Tokyo Agricultural University, is now marketing its seedless watermelon seeds through Intercontinental Industries, Inc., 555 W. Adams St., Chicago, Ill. Developed by Dr. Norio Kondo and fully tested both in Japan and by several midwestern and southern universities in the United States, the seeds are fully treated in Japan and may be cross-pollinated with any local variety of domestic watermelons to produce the seedless type.

The famous Japanese "green thumb" is also evident in the development by this university of hybrid tomatoes, eggplant, and cucumbers. Why not write Joe Espinola, Intercontinental Industries, Inc., 555 W. Adams St., Chicago, Ill., for full details.

### Better Than Glass

For the greenhouse grower who wants something better than glass or polyethylene and at a much lower cost than glass, a new product is now available. The new plastic material will last 10 years, and light causes no deterioration or discoloration. Commercial greenhouses on the East



Coast are now using the product and are completely satisfied. The new material is as clear as glass, transmits almost 100% of the ultraviolet rays, and has a remarkable ability to retain heat. Under actual conditions the new product does away with sun-

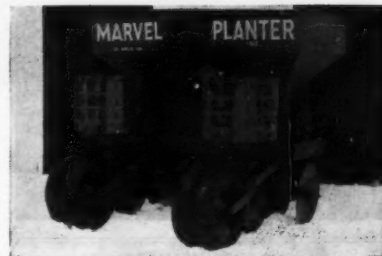
## New for You

burning of transplants and is strong enough to withstand hail, wind, and snow. Because humidity is sealed in, less watering is necessary, and heating costs are reduced. The new material, called Sisal-Glaze, is available in various thicknesses. You can have all of the facts by writing Dept. AV-4, American Sisalkraft Corp., Attleboro, Mass.



### Keep Them Crisp

An amazing new product is doing spectacular things for profit-minded vegetable growers. The new substance, called Tufflex, is manufactured in pads in which vegetables are packed. Packed Tufflex crates are immersed in water, and the Tufflex absorbs moisture and slowly wicks moisture into the packed vegetables during shipment. The result is a crate of crisp vegetables demanding top prices. Tufflex has been used mostly in California on asparagus, lettuce, and potatoes. Tufflex is impregnated with Letrol, a growth-stimulating compound discovered by Dr. J. W. Sharma, of Venice, Calif. Interested growers can get full facts by writing T. W. Kelly, Wood Conversion Co., First National Bank Bldg., Saint Paul 1, Minn.



### Marvel Planter

One of the richest vegetable areas in New York is found around Gowanda, slightly west and south of Buffalo. In this area two grower brothers decided to build their own planter after trying various machines available. This grower-built planter worked so well that a small company was formed to manufacture the machines for neighboring growers. Orders have been so good that the factory has been enlarged, and now you can buy a grower-tested and developed planter. The planter is power-driven to insure an even flow of seed and fertilizer at all times. It has a large-capacity fertilizer hopper capable of handling an acre at a time. Ball-bearing construction and seed disk openers make the machine last longer, and fertilizer is not placed on top of seed where it damages the young plants. Why not get full details on the new planter from Marvel Planter, Inc., Gowanda, N. Y.

### Jiffy Tomato Pots

Commercial growers around Cleveland have found that a new pot composed of 75% peat and 25% wood fiber, impregnated with nitrogen, phosphorus, and potash, is the key to earlier crops. In actual use the plants root right through the pot and are easily transplanted without removing the pot. Prices are low—2¼-inch pots can be purchased at \$7.25 per thousand, with 3000 the minimum order, and 3-inch pots cost \$13.25 per thousand, with a minimum order of 1500. The same company



has many other useful and worthwhile items—why not write Geo. J. Ball, Inc., Dept. V3, West Chicago, Ill.

H?

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ETABLE GROWER

APRIL, 1957

59

## OPPORTUNITY ADS

Only 25c a word for one-time insertion; 20c a word for two-time insertion; 15c a word for four-time insertion—CASH WITH ORDER. Count each initial and whole number as one word. Copy must be in first of month preceding date of issue. ADDRESS AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

### AGENTS WANTED

FARMERS, AGENTS, DEALERS—SELL Nutrilene Hi-Mag liquid fertilizer. Liberal profits, full or part time. District Manager position available. Send for sales kit. Box 246, NUTRILENE FERTILIZERS, St. Joseph, Michigan.

### BEEES

BEEES INCREASE SEED AND FRUIT yields, require little attention. Big profits. Sting-proof equipment. Factory prices save 25%. Free advice from experienced bee men. Free catalogue. WALTER T. KELLEY CO., Dept. D., Clarkson, Kentucky.

### BOOKS

THE HOW TO BOOK ON STRAWBERRIES. The layman's primer, the professional's reference and everyone's factual guide to more and better strawberries. \$1.50. AMERICAN VEGETABLE GROWER, Box 107, Willoughby, Ohio.

### BUSINESS OPPORTUNITIES

\$100.00 WEEKLY RAISING EARTHWORMS! Free plan reveals how! OAKHAVEN-25, Cedar Hill, Texas.

### FOR SALE—EQUIPMENT & SUPPLIES

HOLLAND TWO-ROW TRANSPLANTER. Planted about 60 acres. 4 years old. Very good shape. Price \$225.00. HI-WAY GARDENS, Sterling, Ill.

TRI-PAK TOMATO WASHER, WAXER AND grader used 150 hours. EDWARD SHEPARD, Suffern, New York.

FOR SALE: ONE IRON AGE AND ONE Bemis two-row transplanters, with wet and dry fertilizer attachments. \$100.00 EACH TWO NEW Powell transplanting units only \$100.00. TANDE & SON, Britt, Iowa.

UNITED STATES AIR CONDITIONER Unit Model 24-10 for cold storages. Unit is like new and is priced reasonable. R. KUEHNE SONS, Seymour, Wisconsin.

OLIVER IRON AGE NO. 260 FOUR BAND corn planter 2 row. Good as new. Used one season on 60 acres. PAUL SZALAY, 2171 Everett Road, Peninsula, Ohio.

INCUBATORS ALL SIZES—HATCH PHEASANT, Turkey, Geese, etc. Circular. WILL SHADT, Goshen, Indiana.

### IRRIGATION SYSTEMS

500 GALLONS PER MINUTE IRRIGATING pump powered by 125 HP Chrysler Industrial Motor \$900.00. A1 condition. Trailer mounted. R. A. SIVON, Perry, Ohio.

## OPPORTUNITY ADS

**BUY, SELL AND TRADE**—Readers and business firms will get top advertising value at low cost from AMERICAN VEGETABLE GROWER "Opportunity Ads." These classified ads are widely read, widely responded to by AMERICAN VEGETABLE GROWER'S high-income readers throughout America. Our classified advertising department will run your ad under any heading and will guarantee correct insertion.

**RATES**—For one insertion, 25c per word. For two insertions, 20c per word. Four insertions, 15c per word. Count each initial or whole number as one word. CASH WITH ORDER.

**AMERICAN VEGETABLE GROWER** reserves the right to reject or alter any copy which does not meet its standards. Ads will be inserted in first available issues unless preferred month is specified by advertiser. Closing date is first of month preceding publication.

### MUSHROOMS

MUSHROOMS IN 14 DAYS WITH OUR Ready-To-Grow preplanted trays, 3 for \$4.50 plus express charges from Ohio. Spawn plus newest manures growing methods, and marketing "how-to", \$1.00 ppd. Books and growers' supplies. Free literature. LUXOR-AVG, 641 South 19th, Newark 3, N.J.

### OF INTEREST TO WOMEN

QUILTING? REMNANTS? POUND, 15c UP. Lists, Samples. RAINBOW, Estill Springs, Tenn. "8 MISTAKES PARENTS MAKE" EVERY parent should have this new book about child training. It is free; no obligation. Simply address PARENTS ASSOCIATION, Dept. 1363, Pleasant Hill, Ohio.

### PLANTS AND SEEDS

HORSE RADISH SPROUTS, HEALTHY sturdy, virus free strawberry plants. Write for quotations. CLARK SEED CO., Cheswold, Delaware.

VINE SEEDS, HYBRID SWEET CORN, seeds fully treated for your protection. Write for quotations. CLARK SEED COMPANY, Cheswold, Delaware.

STRAWBERRY PLANTS—ARKANSAS CERTIFIED, virus free, disease free. Green Tag Blakemore plants. \$5.00 per 1,000. Twenty other leading varieties \$6.00 per 1,000. UNVERRICHT & SCOTT, Augusta, Arkansas.

RHUBARB PLANTS FOR SALE—WRITE LENORA WELCHLEN, LeRoy, Illinois.

SWEET POTATO PLANTS. GUARANTEED. Improved Portoricans, Tennessee Nancy Halls, "Bunch" vineless Portoricans. 200, \$1.00; 500, \$2.00; 1,000, \$3.50; 10,000, \$30.00. Quick shipments. Planting guide free. PETE TAYLOR, Gleason, Tennessee.

STRAWBERRY PLANTS ESSENTIALLY VIRUS FREE, also No. one blueberry and raspberry plants. Write for free descriptive folder. FLORINA GARDENS, Greenfield, Mass.

SWEET POTATO PLANTS LEADING VARIETIES. Write for prices and free growers guide. J. D. DELLINGER, Gleason, Tenn.

VIRUS FREE STRAWBERRY, RED, BLACK raspberry plants. Guaranteed to grow. Circular. EUREKA PLANT FARM, Hastings, N.Y.

CHINESE VEGETABLE "BOK CHOY" seeds \$1.00 a packet JOHN CHIN, 916 Kings Highway, Brooklyn 23, N.Y.

FOUNDATION SEBAGO AND CHEROKEE also Certified Sebago Seed Potatoes. NORTH MICH SEED FARM, Elmira, Mich.

TENNESSEE REGISTERED (VIRUS-FREE) strawberry plants: Blakemore, Dunlap, Klommore, Klondyke, Missionary, Florida Ninety \$6.00 per thousand. Albritton, Aroma, Bellmar, Tennessee Beauty, Catskill, Robinson, Premier \$8.00. Dixie-land, Sparkle \$10.00. Peachontas \$12.00. SMITH BERRY GARDENS, Ooltewah, Tennessee.

HARDY CHRYSANTHEMUMS, BEAUTIFUL collection of hardy mums, large flowering, intermediate, Pompom, Button, Cushion. Each collection made up from 90 named varieties, No. 1 grade plants. Surplus from our regular wholesale trade. Positively guaranteed. 18 healthy plants \$2.00. Postpaid when wanted. ELM TREE PERENNIAL FARM, Southington, Conn.

ONION SEED. WE HAVE TOP STRAINS—Brigham Yellow Globe—Early Yellow Globe. Ask for complete price list. LETHERMAN'S, 501 McKinley Avenue, N.W., Dept. VG, Canton 2, Ohio.

### WANTED—EQUIPMENT & SUPPLIES

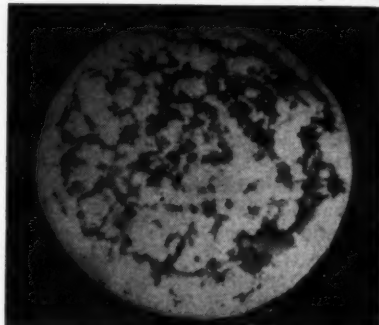
SPRAYER FOR 15 ACRE ORCHARD. KLEM-ENTS, Huntsburg, Ohio.

## BETTER MUSHROOMS

SCIENTISTS T. T. Ayers and E. B. Lambert, of the USDA, Beltsville, Md., suggest using 100 parts of chlorine per million parts of water as a spray for mushrooms to effectively control four common diseases, improve yield and appearance with little extra expense and labor.

Due largely to the results of extensive research by the mushroom industry, state experiment stations, and the USDA, mushroom production has increased from 1 pound on the average to 2 pounds per square foot of bed space. The two researchers feel the chlorinated water spray will increase production still more.

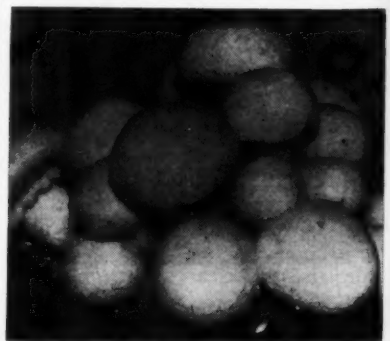
Photos courtesy USDA



Bacterial spot, a destructive disease, makes hand picking necessary to prevent epidemics.



Bubble disease that pits one fungus against another spreads rapidly with serious results.



Use chlorinated water and reap the rewards of healthy plants, good quality and big yields.

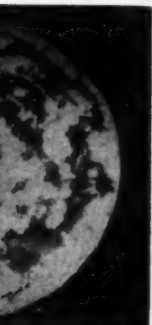
AMERICAN VEGETABLE GROWER



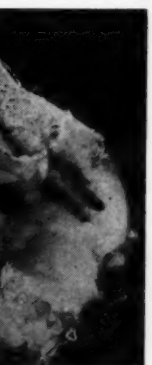
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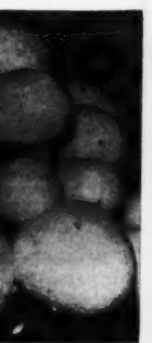
otos courtesy USDA



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up the rewards of  
and big yields.

ETABLE GROWER

**Just 3/4 cent per mile  
covers light  
hauling costs!**

**Cushman 780  
TRUCKSTER**

America's lowest cost vehicle for light farm hauling now offers a heavier, more powerful Cushman Husky engine for greater than ever performance and economy. Handles up to 500 pound payload. Fibre glass cab available for weather protection, also electric starter as optional equipment.

- Sold and serviced nationally;
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- Dealer inquiries invited.

**Write for new FREE booklet today  
CUSHMAN MOTOR WORKS, INC.  
990 No. 21st, Lincoln, Nebraska**

**FLASH!**  
**IMPROVED FROST ALARM**

- ★ 2 adjustable sensing elements. May be used at 2 locations or together for added safety.
- ★ 2 circuit type. Warns despite power failure, wire breakage, etc.
- ★ Can be used with drycell-doorbell, horn or car, or can start wind machine or sprinkler pump, etc.
- ★ Adaptable to house current or 6 volt car battery—state which.

**\$29<sup>75</sup> prepaid**

**Art De Desrochers**  
Rt. 3, Box 3085 Wenatchee, Wash.  
Also Refrigeration equipment and multiple aluminum insulation

**This Beautiful, Imported, Handwoven  
"HORN OF PLENTY"**

**Yours for  
Only \$1**

Since ancient times the "Horn of Plenty" (or Cornucopia) has been the symbol of abundance and prosperity. But in addition to its symbolic value, this "Horn" also has many practical uses.  
Brimming over with fruits, nuts and berries, it makes a magnificent centerpiece. Filled with rolls and biscuits, it's a truly different bread basket. Hanging on your wall, it's a colorful floral vase.  
At this low price you'll want several . . . for yourself and for holiday gifts.  
Quantities are limited. Order today.

**AMERICAN VEGETABLE GROWER**  
Willoughby, Ohio

Please send me "Horns of Plenty" at only \$1 each.

Name \_\_\_\_\_

Address or R.F.D. \_\_\_\_\_  
Send Cash, Check or Money Order At Our Risk. AV-4

APRIL, 1957

## CALENDAR OF COMING MEETINGS AND EXHIBITS

**April 1-4—Maine Farm and Home Week 50th anniversary, University of Maine, Orono.—Roderick L. Reynolds, Extension Service, U. of Maine, Orono.**

**July 25-Aug. 2—National Vegetable Week, sponsored by Vegetable Growers Association of America. Joseph S. Shelly, Sec'y, 528 Mills Bldg., Washington 6, D. C.**

**Aug. 13-14—Ohio Pesticide Institute, Ohio Agricultural Experiment Station, Wooster.**

**Aug. 16-Sept. 30—Vegetable Growers Association of America, third Grand Tour of Europe visiting England, Holland, Germany, Austria, Switzerland, Italy, and France. Tour conducted by Walter F. Pretzer, % American Express Company, 1425 Euclid Ave., Cleveland 15, Ohio.**

**Aug. 17—Summer Field Day, Kansas State College Horticultural farm, Manhattan.—William E. Amstein, Sec'y, Manhattan.**

**Sept. 15-18—Produce Packaging Association 7th annual conference and exposition, Shoreham Hotel, Washington, D. C.**

**Oct. 9-11—Florida Fruit & Vegetable Association 14th annual convention, Hotel Fontainebleau, Miami Beach.—Florida Fruit & Vegetable Assoc., 4401 E. Colonial Drive, Orlando.**

**Nov. 14-15—Western Growers Association 32nd annual convention, Hotel del Coronado, Coronado, Calif. Headquarters; 606 So. Hill St., Los Angeles 14, Calif.**

**Dec. 9-12—Vegetable Growers Association of America 49th annual convention, Jung Hotel, New Orleans, La.—Joseph S. Shelly, Sec'y, 528 Mills Bldg., Washington 6, D. C.**

## STATE NEWS

(Continued from page 48)

### Corn Varieties of Merit

**WISCONSIN**—Under the cool and moist conditions of 1956, some 14 varieties of sweet corn showed considerable merit in experimental tests at the Hancock Branch Station, reports John Schoenemann, University of Wisconsin horticulturist.

**For home garden:** Gold Rush, Golden Beauty, Golden Cross Bantam.

**For market garden:** Our Choice, Wisconsin Golden 900, Golden Beauty, Seneca Chief, Golden Cross Bantam.

**For canning:** Tendermost, Golden Cross Bantam, Golden Security, Golden Hybrid, Victory Golden, Code 10.

Schoenemann says all seed was treated with a combination insecticide-fungicide. Rows three feet apart were planted on May 16 and thinned to single plants 12 inches apart on June 13.

A complete nitrogen-phosphorus-potash fertilizer was sidedressed on June 13, and ammonium nitrate was applied on June 29. Plots were irrigated when needed and sprayed at regular intervals with DDT for control of corn ear worm.

### Kansas Elects

**KANSAS**—The 1957 officers for the Kansas State Horticultural Society are John E. Britt, Manhattan, president; Erwin Abmeyer, Wathena, vice-president; Richard Hancock, Wichita, treasurer; William G. Amstein, Manhattan, secretary.

Interest in irrigation for the production of vegetables has increased in western Kansas counties. Good results with tomatoes in 1956 have further stimulated acreages in this area. However, many other vegetable crops are grown in the area including melons and onions.

Dr. George A. Filinger, of the Kansas State College horticultural staff, is serving as group leader of the Kansas State College team at Secunderbad, India, for the International Co-operation Administration.—William G. Amstein, Sec'y, Manhattan.

## SENSATIONAL!! New Low Cost Plastic Greenhouse Heating

**WITH KUR-MOR**

(USING L-P  
OR BOTTLED GAS)

50,000 BTU Input  
Rugged Construction  
No Vent Required

100% Safety Pilot  
Directional Heat  
Flow  
Manual or Auto-  
matic Control

Is Being Used with  
Outstanding Results

**WRITE** **PAT. PENDING**  
**BLUE GRASS BUTANE CO., Inc.**  
2417 Nicholasville Pike Lexington, Ky.

**VEGETABLE PLANT HEADQUARTERS**

**WRITE TODAY. FREE WHOLESALE LIST  
FOR TOMATO—PEPPER—CABBAGE—ONION—  
SWEET POTATO PLANTS. Best strains of lead-  
ing varieties. State Inspected. Grown from Cer-  
tified Seed.**

**FARRIER PLANTS, B. B. BROWN, Box 666  
Morris County, Omaha, Texas**

**25,000  
DWARF APPLE TREES**

Hardy, northern grown 1-year old trees. Grafted on Malling Stocks No. II, IV, VII and IX. Guaranteed free from insect pests or plant disease. Backed by more than 100 years of Leuthardt family experience in Dwarf Fruit Trees. Send for prices. State your needs, soil conditions and varieties desired, to eliminate any possible risk in choosing proper understock.

**HENRY LEUTHARDT**  
Port Chester New York

**FOR YOUR  
IRRIGATION  
Pumping Units  
Insist on HALE**

**Guarantee Yourself . . .**

- Assured Crops
- Better Quality
- Bigger Profits

● Hale Pumping Units are sold through Distributors well qualified to engineer a system suited to YOUR needs.

Write today to Dept. AVG for detailed information. Prompt reply guaranteed.

Name \_\_\_\_\_

Address \_\_\_\_\_

Water Source \_\_\_\_\_ No. Acres \_\_\_\_\_

Irrigation Division

**HALE FIRE PUMP CO.**  
CONSHOHOCKEN, PA.



## Mechanical Advancement

It appears that the greatest advancements and developments in farm mechanics, as applied to vegetable farming, will be taking place in the harvesting phase, at least for the next quarter century. We have recently witnessed a few major developments in this field, such as the snap bean harvester, radish harvester, beet harvester, and onion harvester.

Engineers and growers together are perfecting earlier harvesting machines such as the potato harvester, pea harvester, sweetpotato harvester, celery harvester, and spinach or greens harvester. Machines for harvesting cabbage and head lettuce are on the way.

The challenge is great, perhaps even greater than in other phases of vegetable growing, and for that reason we have some of our finest agricultural engineers at work in this field. Some of the engineering problems are tough and require the development of precision-operated implements. We know that industrial engineers have designed and built machines to solve just as intricate difficulties in manufacturing industries, and we have confidence that our engineers are just as skilled, inventive, and interested in their work as are their associates in industry.

In addition to the engineer himself, we have plant breeders at work on harvesting problems. They are striving for varieties which will be harvested more uniformly and better adapted to mechanical harvesting. Other workers, as those in pest control and fertilizer work, are striving for the same end. Advancements in this area have already been made in peas, beans, and sweet corn, but the challenges to plant scientists of the future are virtually unlimited.

You can call these developments in mechanical harvesting a part of the modern wave of automation. There seem to be two major reasons for such development: managerial necessity to reduce costs of production, and desire to make work less burdensome physically.

Harvesting still makes the greatest demands upon labor of all phases of vegetable growing. We know of individual harvesting machines that do the work formerly performed by 20, 30, or 40 workers. The question arises, what do these people do when this work is snatched from them? This is a question that should perturb

us, but on the other hand, national employment is on the increase each year. This means that when some jobs close, new ones open up. It seems that so long as we do not unbalance our society too quickly at any one time, this problem of employment is solved within itself.

When we begin tampering with one phase of our industrial-social status quo, we must make adjustments in other phases to maintain a balance. Actually, this balance most frequently comes automatically, unless changes are too swift and too far-reaching. Even we vegetable growers must have some concern for this matter.

## Published Proceedings

WHILE attending a meeting of a state vegetable growers' association recently, we witnessed a discussion on whether the group should continue publishing the proceedings of its transactions. While the association tabled action on this matter until next year, it set us to thinking.

The published proceedings of a state vegetable growers' association ought to be viewed as one of its essential functions. Rarely does more than 50% of an association's membership attend the annual meeting.

If no record is kept and subsequently published, the absent half of the membership will never know what happened at the meeting. In addition, they will have no reference specific to fertilizer practices, weed control sprays, insect control measures, or

any other subject discussed at the annual meeting. Also, there is the need for some sort of record and report for the benefit of posterity.

Many are the times that we have used in our office some of these old association proceedings to dig up a

## QUOTE-OF-THE-MONTH

"April prepares her green traffic light and the world thinks Go."

—Christopher Morley

few facts lost to the minds of men. But there they were in the records, preserved for our use.

Reasons offered for discontinuing the proceedings seemed to be these: lack of money to cover increased costs of printing the report, an opinion that vegetable growers don't read them, and a feeling that monthly newsletters might replace them.

The strongest argument is probably that of increased costs of printing. It was stated that this association had lost over \$3000 by publishing its proceedings in recent years. In other words, the association was not recovering from its members the cost of its annual proceedings. The annual membership dues in this state is \$3.00.

As was suggested during the discussion at the annual meeting, why not raise the dues one, two or three dollars? Raise it enough to cover the costs of printing. That would be a sound approach, but what about losing members? There seems to be but one answer to this. If membership in your association is worth the increased dues, then growers will not object. If it isn't, then the effectiveness of the association ought to be investigated and its program revised.

We will go along with the idea of periodical newsletters by associations, but they cannot take the place of the annual proceedings. Newsletters are what their name implies—letters of news to growers about some current problem or practice. They rarely serve as reference material.

For these reasons we favor the publishing of the annual proceedings. We hope you do too.

## Coming Next Month

- How to Recognize Nematode Damage
- Anhydrous Ammonia Can Help You
- Saving Labor Costs with Weed Sprays
- Air-blast Equipment Cuts Spray Costs
- New Products Boost Potato Consumption

AMERICAN VEGETABLE GROWER

## VEGETABLE CONVENTION



"Plowin' wasn't that easy when I was a boy!"

# SPRAY FASTER FOR LESS

## BUFFALO TURBINE *Turbulent Air*

The "Stainless Streamliner"

### SPRAYER

Model "H"

The Modern Concentrate Sprayer for ALL

Orchards, Groves and Row Crops

The ONLY Air-Blast Sprayer With EVERYTHING

### WHAT IT DOES . . .

Uses turbulent air to atomize and apply concentrated sprays and/or dust, giving a thorough and wide-ranged coverage never before possible . . . providing a means of quick and thorough application. Is adjustable to give desired degree of agitation to foliage, with enough velocity to completely carry through the tops of trees as well as through row after row of heavy thick leaf cover in row crops.

For Those Who Only SPRAY →



200-GALLON  
STAINLESS STEEL  
TANK

### COMPARE!!

With the Rest

### THEN BUY!

#### The Best

- LOW INITIAL COST
- LOW MAINTENANCE COST
- LESS MATERIAL COST
- GUARANTEED SERVICE
- STAINLESS STEEL TANK
- LIGHT IN WEIGHT
- ONE MAN OPERATION
- FASTER COVERAGE
- TWO-WAY ADJUSTABLE AXLE
- HIGH AIR VOLUME
- HIGH AIR VELOCITY

Write For Literature  
or FREE Demonstration

Some Territories Open  
Dealer Inquiries Invited

### SPRAYER-DUSTER

Model-CS



100-GALLON  
STAINLESS STEEL  
TANK

← For Those Who  
DUST and SPRAY

### CHOICE OF PUMPS

6 to 30 Gal. Per Minute

### HOW IT DOES IT . . .

By using turbulent air as the vehicle, you can distribute insecticides and fungicides in the form of a liquid or dust or a combination of both in any proportion. The use of a combination of dust and "liquid sticker" has never been successfully done before, primarily because the sticker was used as the carrying medium, whereas Buffalo Turbine Sprayer-Dusters use air as the vehicle.

You can vary this blast of air in jet formation from a gentle breeze to a hurricane of 180 MPH. This is why you can get such an extremely long "carry" and also accurate directional control and extreme penetration.



**Buffalo Turbine Agriculture Equipment Co. Inc.**

GOWANDA, NEW YORK

# HERE'S WHAT THEY'RE SAYING ABOUT



## SIXTYPAK sweet corn — by **Asgrow**



**Plants:** Midseason maturity. Resistant to wilt, leaf blight, heat and drought. Mostly double-eared.

**Ears:** Exceptionally uniform for 60-per-crate size and excellent tip fill. Dark green husks with nice flag leaves.

"When you get both yield and quality, you've got yourself a real hybrid," says Lucien Laliberty, manager of Andy Boy Farms, Concord, Mass. He finds Sixtypak outstanding for quality, appearance and eating — and by far the heaviest yielding hybrid on his farm last summer.

**IT'S NOT TOO LATE TO ORDER NOW  
FOR THIS SEASON . . .  
but supplies are limited.**



### ASSOCIATED SEED GROWERS, INC.

*Breeders and growers of vegetable seeds since 1856*

ATLANTA 2  
MILFORD, CONN.

CAMBRIDGE, N.Y.  
OAKLAND 4

INDIANAPOLIS 25  
SALINAS

EXMORE, VA.  
SAN ANTONIO 11

MEMPHIS 2  
VINELAND, N.J.

Distributors in Florida: The Kilgore Seed Co., Plant City  
International Division: Asgrow Export Corp., Milford, Conn.